The Effect of Islamic-Based Insight Enhancement Nursing Program on Medication Adherence in Persons with Schizophrenia

Syarifah Rauzatul Jannah

A Thesis Submitted in Partial Fulfillment of the Requirements for the Degree of

Doctor of Philosophy in Nursing (International Program)

Prince of Songkla University

2015

Thesis Title The Effect of Islamic-Based Insight Enhancement Nursing Program on Medication Adherence in Persons with Schizophrenia

Author Mrs. Syarifah Rauzatul Jannah

Major Program Nursing (International Program)

Major Advisor

.....

(Assoc.Prof.Dr.Wandee Suttharangsee)

Co-advisor

.....

(Asst.Prof.Dr.Urai Hatthakit)

Examining Committee:

.....Chairperson

(Assoc.Prof.Dr.Aranya Chaowalit)

.....Committee

(Assoc.Prof.Dr.Wandee Suttharangsee)

.....Committee

(Asst.Prof.Dr.Urai Hatthakit)

..... Committee

(Asst.Prof.Dr.Umaporn Boonyasopun)

.....Committee

(Asst.Prof.Dr.Nidtaya Takviriyanun)

The Graduate School, Prince of Songkla University, has approved this thesis as partial fulfillment of the requirement for the Doctor of Philosophy in Nursing (International Program).

…….....

(Assoc.Prof.Dr.Teerapol Srichana)

Dean of Graduate School

This is to certify that the work here submitted is the result of the candidate's own investigations. Due acknowledgement has been made of any assistance received.

..……Signature
(Assoc.Prof.Dr.Wandee Suttharangsee)
Major Advisor

..……Signature
(Mrs. Syarifah Rauzatul Jannah)
Candidate

I hereby certify that this work has not been accepted in substance for any degree, and is not currently submitted in candidature for any degree.

…….....…….Signature

(Mrs. Syarifah Rauzatul Jannah)

Candidate

Thesis Title The Effect of Islamic-Based Insight Enhancement Nursing Program on Medication Adherence in Persons with Schizophrenia
Author Mrs. Syarifah Rauzatul Jannah
Major Program Nursing (International Program)
Academic Year 2015

ABSTRACT

Medication adherence is very important for persons with schizophrenia. This study aimed to evaluate the effect of Islamic-based insight enhancement nursing program on medication adherence in persons with schizophrenia. Islamic-based insight enhancement nursing program is one of religious interventions that help the Muslim persons with schizophrenia to adhere to their medication through enhancing their insight. The duration of the program was 5 weeks and is comprised of 9 sessions of group training. This study was a randomized controlled trial with repeated measures to examine medication adherence of Muslim patients with schziophrenia. One hundred and ten eligible participants recruited from the Community Health Center in Aceh Besar District, Indonesia were assigned to either the experimental group (n = 55) or the control group (n = 55). However, ten participants dropped out. Therefore, one hundred participants were included in this study. The Medication Adherence Rating Scale (Thompson, Kulkarni, & Sergejew, 2000) was employed to assess medication adherence of persons with schizophrenia both in the two groups. Mann-Whitney U test, repeated measures Friedman test, and Wilcoxon signed rank test were employed to analyze the mean rank differences of medication adherence between the experimental group and the control group, and within group.

Results showed that there were significant differences in mean rank of medication adherence between the experimental group and the control group at 2 weeks ($U = 934.0$, $p < .05$), and 1 month follow-up ($U = 238.5$ $p < .01$).The findings of this study suggest that Islamic-based insight enhancement nursing program was effective in enhancing medication adherence of persons with schizophrenia in the community setting.

ACKNOWLEDGEMENTS

In the name of Allah SWT, the most compassionate, and the most merciful, praise is to the Lord of the universe who gives the best reward to the God fearing and the great low to the transgressor, and peace and blessing be upon His Messenger Prophet Muhammad SAW, His families, and companions. Alhamdulillahirabbil'aalamiin. The researcher has completed the thesis by guidance and blessing of Allah SWT.

The researcher would like to express deep gratitude and appreciations to major advisor, Assoc. Prof. Dr. Wandee Suttharangsee and co-advisor, Asst. Prof. Dr. Urai Hatthakit for all of their guidance and valuable advices throughout this study. Great appreciation is also offered to committee members: Assoc. Prof. Dr. Aranya Chaowalit, Asst. Prof. Dr. Umaporn Boonyasopun, and Asst. Prof. Dr. Nidtaya Takviriyanun.

The researcher also would like to thank the Dean of the Faculty of Nursing, Prince of Songkla University, Thailand, Assoc. Prof. Dr. Aranya Chaowalit. A special thanks to the Director of Health, Banda Aceh and the Director of Community Health Center, Aceh Besar, District, Indonesia, who allowed collecting data for the study and the research assistances helped in this study. The researcher also thanks to the Director of Faculty of Nursing, Syiah Kuala University, Banda Aceh, Indonesia, Dr. Hajjul Kamil, S.Kp, M.Kep for all of his supports.

Sincerely love always goes to my beloved husband, dr. Muhammad Ali who had so much contribution for this study, without his love and patience, I am nothing. The researcher always loves my beautiful daughter, Mutiara Syarli, you are my only sunshine and my spirit. The researcher also would like to thank my beloved parents, my father, Said Darma (in memoriam) and my mother, Marliah for all of their prayers and supports for my study. To my beloved brother and my youngest sister, Said Husnul Fuad, Ssi and dr. Syarifah Zulinar, who always give a big support for my study. The researcher also would like to thank my colleague, Ns.Yuswardi, MNS for his kind helps in this study.

Finally, the researcher acknowledges Graduate School, Prince of Songkla University, Thailand, and Institute of Human Resources (LPSDM), Banda Aceh, Indonesia for funding scholarship of the degree.

Syarifah Rauzatul Jannah

CONTENTS

CONTENTS (continued)

CONTENTS (continued)

CONTENTS (continued)

LIST OF TABLES

LIST OF TABLES

LIST OF FIGURES

CHAPTER 1

INTRODUCTION

Background and Significance of the Problem

The World Health Organization (2013) has stated that schizophrenia is a severe mental illness affecting approximately 7/1000 of the adult population, with an onset at the age of 15-35 years. Schizophrenia is a serious and deteriorating mental illness related to neurological dysfunction which has also become a global burden. Schizophrenia occurs in 1% of the population, and is rated as the 8th leading cause of disability-adjusted life years worldwide in the age group of 15-44 years (Pooe, Sokudela, Roos, Motlana, Dlamini, & Snyman, 2010). It also has been highlighted that more than 40 % of schizophrenic patients receive treatment in psychiatric hospitals (Pyne, McSweeney, Kane, Harvey, Bragg, & Fisher, 2006). The characteristics of this disease can be shown by the presence of positive and negative symptoms such as disorganized behavior, disorganized speech, hallucinations and delusions.

In Indonesia, Basic Health Research (Riskerdas, 2007) has found that the prevalence of severe mental illness such as schizophrenia and depression among Indonesian people was 0.46% or approximately one million of Indonesian people suffer from severe mental illness. Schizophrenic patients need long-term treatment during severe periods of their illness at a psychiatric hospital and after such treatment they need to be returned to societ. Insight is a very important phenomenon in persons with schizophrenia. It is considered as a multidimensional construct. Bora, Erkan, Kayahan and Veznedaroglu (2007) pointed out that poor insight is the most important feature of

schizophrenia. Nieto, Cobo, Pousa, Blas-Navarro, Garcia-Pares, and Palao et al (2012) stated that insight refers to some aspects such as (1) awareness of having a mental disorder, (2) awareness of the effects of medication, and (3) an understanding of the social consequences of the disorder. Mintz, Dobson and Romney (2003, as cited in Bota, Munro, Ricci and Bota , 2006) stated that insight comprises five dimensions: (1) one's awareness of having a mental disorder, (2) the social consequences of the illness, (3) the need for treatment, (4) the symptoms in particular, and (5) the relatedness of the symptoms to the disorder.

Approximately, 50%-80% of persons with schizophrenia have poor insight (Pijnenborg, Van der Gaag, Bockting, Van der Meer & Aleman, 2011).The common symptom that occurs in schizophrenia is lack of insight. Several factors can cause a lack of insight in schizophrenic persons. These include neuropsychological (brain) deficits, part of the primary psychiatric illness itself, and a coping strategy of defensive denial to protect the patient against the distress of the awareness of his or her illness (Casher & Bess, 2012). Most schizophrenic persons are not aware of their illness because they lack insight. Amador (2006) stated that lack of insight in psychotic disorders can be described as a lack of awareness of having an illness, the deficits caused by the illness, the consequences of the illness, and the need for treatment. Furthermore, Pijnenborg et al (2011) found that limited insight has been associated with more positive and negative symptoms, more relapses and rehospitalizations, and lower global assessment of functioning (GAF) scores.

It has been estimated that 50% of persons with schizophrenia adhere poorly to their medication regimens (Patel, Quanhong, Clayton, Lam, & Parks, 2010). Hill, Crumlish, Whitty, Clarke, Browne, and Kamali et al. (2010) stated that non-

adherence to antipsychotic medication in persons with schizophrenia is related to relapse rates of almost 80% after one year and 96% after two years. Medication non adherence can increase the potential for assault and dangerous behaviors, especially during a period of psychosis (Zygmunt, Olfson, Boyer, & Mechanic, 2002). Masand and Narasimhan (2006) stated that non-adherence to antipsychotic medication is a common reason for a relapse and rehospitalization of patients with schizophrenia and thus contributing to the high cost of illness treating , adverse events and lack of insight. Zygmunt, Olfson, Boyer and Mechanic (2002) stated that non-adherence patients with schizophrenia have potential risk of relapse that is 3.7 times greater than that of adherence patients. Adherence to medication is defined as the extent to which patients take medications as prescibed by the health care providers (Osterberg & Blaschke, 2005). Bechi, Papini, Cocchi, Anselmetti, Ermoli, Smeraldi, and Cavallaro (2005) pointed out that insight into illness and attitude toward medications are important domains in determining the adherence outcomes in schizophrenic persons.

A number of studies have shown several factors influencing adherence to antipsychotic medication including: illness awareness, psychopathology, medication related aspects, therapeutic alliance, environmental factors, and substance abuse (Barkhof, Meijer, de Sonneville, Linszen, & de Haan, 2012). Another qualitative study using concept mapping undertaken by Kikkert, Schene, Koeter, Robson, Born and Helm, et al. (2006) found that five themes were identified as having an effect on adherence: medication efficacy, external factors (such as patient support and therapeutic alliance), insight, side effects, and attitudes towards medication. Therefore, strategies are needed to enhance medication adherence in schizophrenic patients.

Several studies have been conducted to examine strategies to enhance medication adherence in persons with schizophrenia. Peggy El-Mallakh and Findlay (2015) reviewed strategies to improve medication adherence in patients with schizophrenia: The role of support services. They found that avalaible support service interventions consist of adherence therapy, electronic reminders via text messages and telephones, cognitive-behavioral therapy, motivational therapy, and financial incentives can be used to enhance medication adherence in schizophrenic persons. Barkhof, Meijer, de Sonneville, Liszen, and de Haan (2012) reviewed interventions to improve adherence to antipsychotic medications in patients with schizophrenia. The results showed that interventions to improve adherence include individual interventions, family interventions, community interventions, and mixed modality interventions. Moreover, Staring, et al. (2010) examined treatment adherence therapy in persons with psychotic disorders: Randomised Controlled Trial.The findings revealed that treatment adherence therapy (TAT) was effective to enhance medication adherence in persons with psychotic disorders compared with treatment as usual (TAU).

Numerous studies have investigated the relationship between insight and medication adherence. Kemp, Hayward, Applewhite, Everitt and David (1996) studied compliance therapy in psychotic patients in a randomized controlled trial. They found that patients who received compliance therapy and motivational interviewing techniques showed significant improvements in their attitudes to drug treatment and in their insight into their illness. Pijnenborg et al (2011) studied the effectiveness of the model, REFLEX, a social cognitive-group treatment to improve insight in patients with schizophrenia. They developed a brief psychosocial intervention called REFLEX which is 12-sessions of group training consisting of three modules of four sessions each.

The modules comprise of coping with stigma, an individual's personal narrative and the individual in the present. They found that the social cognitive-group treatment REFLEX is one of the ways to improve insight in patients with schizophrenia and has the potential value for improving insight. Those studies have been conducted inWestern society and used some techniques that not related to religious practices to enhance insight and medication adherence in persons with schizophrenia. Since religion plays an important role to help the schizophrenic persons to deal with their illness and medication, religious practices including salat (prayer) and recitation of the Holy Qur'an can be the one of the interventions to enhance insight and medication adherence.

Religion is a basic fundamental element in people's lives. Religiosity has an extensive and important influence on human behavior and well-being (Murray-Swank, Lucksted, Medoff, Yang, Wohlheiter, & Dixon, 2006). Mohr (2011) pointed out that religion includes the affiliation and identification with a religious group, cognitive factor-beliefs, and emotional and experiential factors. Religious and spiritual beliefs are significant dimensions that form the decisions many patients about medical treatment and help them to cope with illness and disability (Cohen, Wheeler, Scott, Edwards, Lusk, & The Anglican Working Group in Bioethics, 2000). The Muslim population demonstrates religious beliefs by following religious practices everyday such as praying, reciting the Qur'an and zikr to release their anxiety and depression. Following these practices help followers to feel more peaceful and they will find it easier to cope with stressful events.

Murrad (1999) stated that performing salat uses a variety of Quranic verses and *duas* (supplication) to achieve greater concentration and awareness. The Holy Qur'an states: "*Successful indeed are the believers, those who offer their salah (prayer) with all solemnity and full submissiveness"* (surah Al-Mu'minoon (23:1-2).While performing salat, the whole brain concentrates on Allah so that our mind would be free from tension (Javeed, 2012). Moreover, being mindful in prayer can help Muslims to develop a positive state of mind and keep away unpleasant thoughts and feelings from the past. After achieving concentration or mindfulness in salat, Muslims will feel more calm and peaceful. Hence, following this mechanism is very useful in helping the persons with schizophrenia to enhance their insight, both clinical insight and cognitive insight and will change any negative attitudes toward the illness and medication as well. They will find it easier to cope with their illness problems and adhere to the treatment.

Few studies have focused on Islamic principles particularly salat (prayer) to enhance the insight of persons with shziophrenia. Javeed (2012) investigated Muslims who practice regular namaz (salat) and tilawat-e-Al Qur'an and Muslims who do not practice regular namaz and tilawat-e-Al Qur'an in respect to mental health and self-concept. He found that Muslims who practiced regular namaz and tilawat-e-Al Qur'an have significantly high levels of mental health and high levels of self-concept. Suryani (2013) studied salat and dhikir to dispel voices: the experience of Indonesian Muslims with chronic mental illness in an outpatient unit of a West Java Psychiatric Hospital. The method of the study is descriptive phenomenology with 24 participants. The results showed that the participants found a personal way to dispel voices by doing salat and dhikir everytime they heard voices.

Mardiyono (2012) studied the effects of nursing-based Islamic tapping therapy on anxiety and perceived control with acute myocardial infarction (MI) patients admitted to ICCU in the Muslim population. He found that tapping therapy and zikr therapy were effective in reducing the anxiety of patients with MI. Even though this study was conducted in a different population from that of patients with mental illness, the results showed that religious therapy played an important role in patients with acute or chronic illness.

In addition, roles of nurses are crucial point in promoting mental health care services. Shamian (2014) stated that nursing roles encompass health promotion, prevention of illness, and the care of ill, disabled and dying people, advocacy, promotion of a safe environment, research, participation in forming health policy, and education. Kempainnen et al (2003) studied a survey to identify whether the rapidly changing context of mental health care has significantly influenced the psychiatric nurses in improving medication adherence. The results found that essential roles of psychiatric nurses for enhancing patient adherence consisted of providing medication education, pursuing patient adherence, assessing medication effectiveness, providing individualized, adjusted adherence interventions, and collaborating with other health care providers in medication planning. In relation to the intervention program of this study, several mental health nurses' roles can be incorporated in this study.They include roles of nurses as communicator, educator or teacher, counselor, and collaborator. All these roles play an important key in treating persons with schizophrenia, particularly for enhancing medication adherence.

From the review, we have found that few studies have been developed to examine the effects of Islamic principles (in particular salat) to enhance insight in patients with schizophrenia. In Indonesia, the studies, which investigate the effects of religion on schizophrenia in the Muslim context are still rare. Hence, this study undertakes to examine and evaluate the effect of Islamic-based insight enhancement nursing program on medication adherence in persons with schizophrenia.

Objectives of the Study

The objectives of the study are as follows:

1. To compare medication adherence scores in persons with schizophrenia who receive Islamic-based insight enhancement nursing program and those who receive routine care at 2 weeks and 1 month follow-up between the experimental group and the control group.

2. To compare medication adherence scores in persons with schizophrenia who receive Islamic-based insight enhancement nursing program at 2 weeks and 1 month follow-up within the experimental group.

Research Questions of the Study

Research questions of the study are as follows:

1. Are the mean scores of medication adherence in persons with schizophrenia who receive Islamic-based insight enhancement nursing program higher than those who receive routine care at 2 weeks and 1 month follow-up ?

2. Are the mean scores of medication adherence in persons with scizophrenia who receive Islamic-based insight enhancement nursing program different at 2 weeks and 1 month follow-up ?

Conceptual Framework

The main conceptual frameworks of this study will focus on Islamic principles and the Holy Qur'an, the concept of insight in persons with schizophrenia, the concept of medication adherence and the nursing concept of interpersonal relations.

Lu and Wang (2012) pointed out that insight in mental illness refers to a patient's understanding and judgment of his or her disorder. Ouzir, Azorin, Adida, Boussaoud, and Battas (2012) defines insight as a complex state of awareness of patients of their own illness. Beck, Baruch, Balter, Steer and Warman (2004) stated that lack of insight in schizophrenia plays a role in the development of psychotic disorders. They categorized insight in persons with schizophrenia into two categories: clinical insight and cognitive insight. Clinical insight is defined as a multidimensional construct which consists of three dimensions: 1) an awareness of an illness, 2) relabeling symptoms, and 3) recognizing the need for treatment. On the other hand, cognitive insight refers to the ability to evaluate abnormal experiences and recognize incorrect interpretations. Two components of cognitive insight include self-reflectiveness and self-certainty.

Furthermore, Beck, Baruch, Balter, Steer and Warman (2004) pointed out that lack of awareness of a mental illness requiring treatment is associated with impaired clinical insight. Clinical insight also focuses on aspects of clinical phenomenology crucial for diagnosis and treatment.Whereas, cognitive insight is related to the evaluation and correction of distorted beliefs and misinterpretations of the patients with schizophrenia. The evaluation is based on the metacognition process.

Osterberg and Blaschke (2005) defined adherence to a medication regimen as the extent to which patients take medications as prescribed by their health care provider. Barbui, Kikkert, Mazzi, Becker, Bindman, Scheme et al. (2009) stated that medication adherence is the degree to which medication is taken as prescribed. Medina, Salva, Ampudia, Maurino and Larumbe (2012) pointed out that medication adherence in schizophrenia is a multidimensional concept which includes four main factors: (1) sociodemographic variables, such as age, sex, occupation, level of education, and social status; (2) illness-related factors such as type and severity of symptoms, illness insight, and course of illness; (3) treatment-related factors, such as dosage schedule complexity, frequency and intensity of side effects, and length of treatment; (4) patients' general values and attitudes (illness attitudes). Hence, Medina et al. (2012) stated that patients' decisions to be adherent is because of the interaction among the different factors, for instance the degree of global psychopathology, possible substance abuse, the side effects of experienced or perceived subjective well-being.

With regard to the nursing concept, in this study used interpersonal relations theory based on Peplau (1952, as cited in Tomey & Alligood, 2006).The key assumption of Peplau's theory is therapeutic nurse-client relationship focuses on the client's needs, feelings, problems, and ideas.The major concepts of Peplau's theory

encompass: (1) the purpose of nursing is to help others identify their difficulties, (2) nurse should apply principles of human relations to the problems based on all experiences, (3) the phases of interpersonal process include roles in nursing and methods for studying nursing, (4) nursing is therapeutic and a healing art, assisting an individual who is sick or in of health care, (5) nursing is an interpersonal process because it involves interaction between two or more individuals with a common goal, (6) the nurse and patient work together in achieving the goal, and (7) the attainment of goal is achieved by using a series of steps following a series of pattern.

Moreover, four components of Peplau's theory consist of: (1) person: a developing individual that tries to reduce anxiety caused by needs, (2) environment: existing forces outside the person and in the context of culture, (3) health: a word symbol that implies forward movement of personality and other ongoing human processes in the direction of creative, constructive, productive, personal and community living, and (4) nursing: a significant therapeutic interpersonal process. It functions cooperatively with other human process that make health possible for persons in communities.

Peplau stated that several roles of nurse in therapeutic relationship consist of stranger, resource person, teacher, leader, surrogate, and counselor. Stranger means receives the client in the same acceptance that the nurse would to any stranger and provides an accepting climate that build the trust. Resource person means one who provides a specific information to understand the problems. Teacher means one who inform knowledge for the client's need. Counselor means assisting the client to understand and integrate the meaning of life, and providing encouragement to make changes. Surrogate means helps to identify aspect dependence, independence, and

interdependence and advocate the client's action. Leader means assisting the client's responsibility for achieving the treatment goals.

In addition, Peplau also highlighted four phases of the therapeutic nurse-client relationship. The phases comprise orientation, identification, exploitation, and resolution. The orientation phase starts when the nurse involves in the client's treatment, providing the information, and answering the questions. The identification phase begins when the client works interdependently with the nurse, express feelings, and feel stronger. The exploitation phase provides the professional assistance to solve the client's problems. The resolution phase is the termination phase to end the therapeutic relationship between client and nurse.

Hence, this study will enhance medication adherence of persons with schizophrenia through religious practices. It will be based on Islamic principles and the Holy Qur'an and Hadith. The five pillars in Islam are: (1) shahadah (a deep understanding and verbal acceptance of oneness of Allah and Prophet Muhammad as the final messenger), (2) salat (five compulsory daily prayers), (3) fasting (abstaining from eating and drinking during the month of Ramadhan), (4) zakat (giving charity to the poor),and (5) hajj (pilgrimage to Mecca, if means provide). The other important aspect in Islam is the internal form of worship which is referred to as imaan (faith). The six pillars of faith are: (1) belief in Oneness of God (Allah), (2) belief in Allah's Angels, (3) belief in Allah's revealed books, (4) belief in Allah's Messengers, (5) belief in the ressurection and the events of the day of Judgment, and (6) belief in the predestination of all things and events (*Al-Qadar*) and God's decree.

Muslims believe that both physical and mental illness occur according to the *Al-Qadar*. Everyone's *Qadar* is written from the moment of one's conception of life. Whatever happens in life is written in the *Al-Qadar* and can never be changed, except through supplication, which is the grace of Allah whether to accept or not (Surah An-Nisa 4:48). Muslims also believe that illness, suffering and dying are part of life and are a test from Allah. McCann, Deans, Clark and Lu (2008) stated that religious beliefs and practices can influence medication taking and illness representations in people with schizophrenia. In addition, in Islam the individual must maintain a well integrated holistic perspective of life (Rassool, 2000). Islamic teachings and practice have enabled the production of a holistic framework in meeting the physical, spiritual, psycho-social, and environmental needs and communities. Regarding Islamic health behavior and practices, Al-Jibaly (1998) as cited in Rassool (2000) stated that a sick person should remember that his or her sickness is a test from Allah which carries tidings of forgiveness and mercy for him or her, therefore, he or she should avoid complaining about his or her affliction, accept it with patience and satisfaction and ask Allah to reduce his or her suffering.

Several verses in the Holy Qur'an explain about healing. Allah, the most high said "*It is a guidance and a healing for those who believe*" (Fussilat 41:44) and "*We reveal of the Qur'an that which is healing and a mercy for believers*" (Al-Isra 17:82). One Hadith of Prophet Muhammad states that " Every disease has a medication: If the medication for a particular disease is found it will be cured with Allah's permission". Muslims believe that whenever they get sick, it is a trial from Allah. The person will be tested according to his/her level of religious commitment.

This study will focus on salat (prayer) as the second pillar in Islamic principles and the Holy Qur'an that are relevant for enhancing the insight of schizophrenic persons. Salat is the five compulsory daily prayers. It is based on the belief that a person has a direct and deep relationship with God (Allah). Salat also plays an important role to increase the faith and tawakkul (trust in Allah). These components are necessary in Muslim belief. It can help the persons particularly with mental illness such as schizophrenic persons to enhance their insight of their illness. Hodge and Nadir (2008) stated that Muslims use the Islamic practice such as prayer as a manner to deal with the frustration and challenges of life. When Muslims perform salat they should prepare both physical aspects and mental aspects. Salat must be performed with humility in both a physical and mental manner. Salat involves the tongue, the heart, the mind and the whole body.

The most important factor in performing salat is mindfulness or concentration. Murrad (1999) stated that performing salat uses a variety of Quranic verses and *duas* (supplication) to achieve greater concentration and awareness. The Holy Qur'an states: "Successful indeed are the believers, those who offer their salah (prayer) with all solemnity and full submissiveness" (surah Al-Mu'minoon (23:1-2).While performing salat, the whole brain concentrates on Allah so that our mind is free from tension (Javeed, 2012). Moreover, being mindful in prayer can help Muslims to develop a positive state of mind and keep out unpleasant thoughts and feelings from the past. After achieving concentration or mindfulness in salat, Muslims will feel more calm and peaceful. Hence, following this mechanism is a very useful in helping the persons with schizophrenia to enhance their insight, both clinical insight and cognitive

insight and will change the negative attitudes toward the illness and medication as well. They will find it easier to cope with their illness problems and adhere to the treatment.

The Holy Qur'an provides a lot of essential meaning for a Muslim's life particularly for healing and seeking treatment for illness. Al-Qur'an is the final divine revelation (message of Allah) communicated through His final messenger the Prophet Muhammad Salla-Allahu alayhi wa sallam. Muslims believe that the Holy Qur'an contains directions and a code of conduct for humanity. The Holy Qur'an also is a source of knowledge which deals with thousands of subjects. Katiya (2013) stated that there are three rights of the Qur'an upon the Muslims: (1) to recite the Qur'an correctly in the manner it was revealed to the Prophet Muhammad Salla-Allahu alayhi wa sallam as he recited it, (2) try to understand it and to comprehend its truths and knowledge, and (3) to act on its teachings and guidance. Therefore, the Holy Qur'an can be used as the intervention to enhance insight and medication adherence in persons with schizophrenia.

The Holy Qur'an in sura 16, verse 125 stated that *the Islamic principles emphasize human integrity, the rights of others, and reason and wisdom*. The Islamic directives provide a clear way for guiding a healthy mental status and a meaningful psychosocial life (Baasher, 2001). In sura 2, verse 177 of the Qur'an it is stated clearly that *it is not righteousness that you turn your face to the east and the west, but righteousness is to believe in Allah, the Last Day, and the Angels and the Scriptures and the Prophets and give wealth, in spite of love for it, to kinsfolk, orphans, the poor and and the wayfarer and to those who ask, and set slaves free, and observe the proper worship and pay the poor their due. And those who keep their promises when they make one, and the patient in tribulation and adversity and time of stress. They are the*

sincere and the pious. Furthermore, The Holy Qur'an in Sura *Al-Isra: 82* states that "*And we send down from the Qur'an that which is a healing and a mercy to those who believe*", and in Surah *Yunus: 57 stated that "O mankind there has come to you a direction from your Lord and a healing for the (diseases) in your hearts and for those who believe guidance and mercy".*

In summary, by practicing mindfulness in salat five times a day and applying the essential meanings of salat and reciting the Holy Qur'an, the patients with schizophrenia will increase their insight and attitude toward taking their medication. They will also become more peaceful and seek help from God (Allah) to help them to cope with their illness and the acceptance of their treatment. The conceptual framework of this study can be depicted as shown in figure 1.

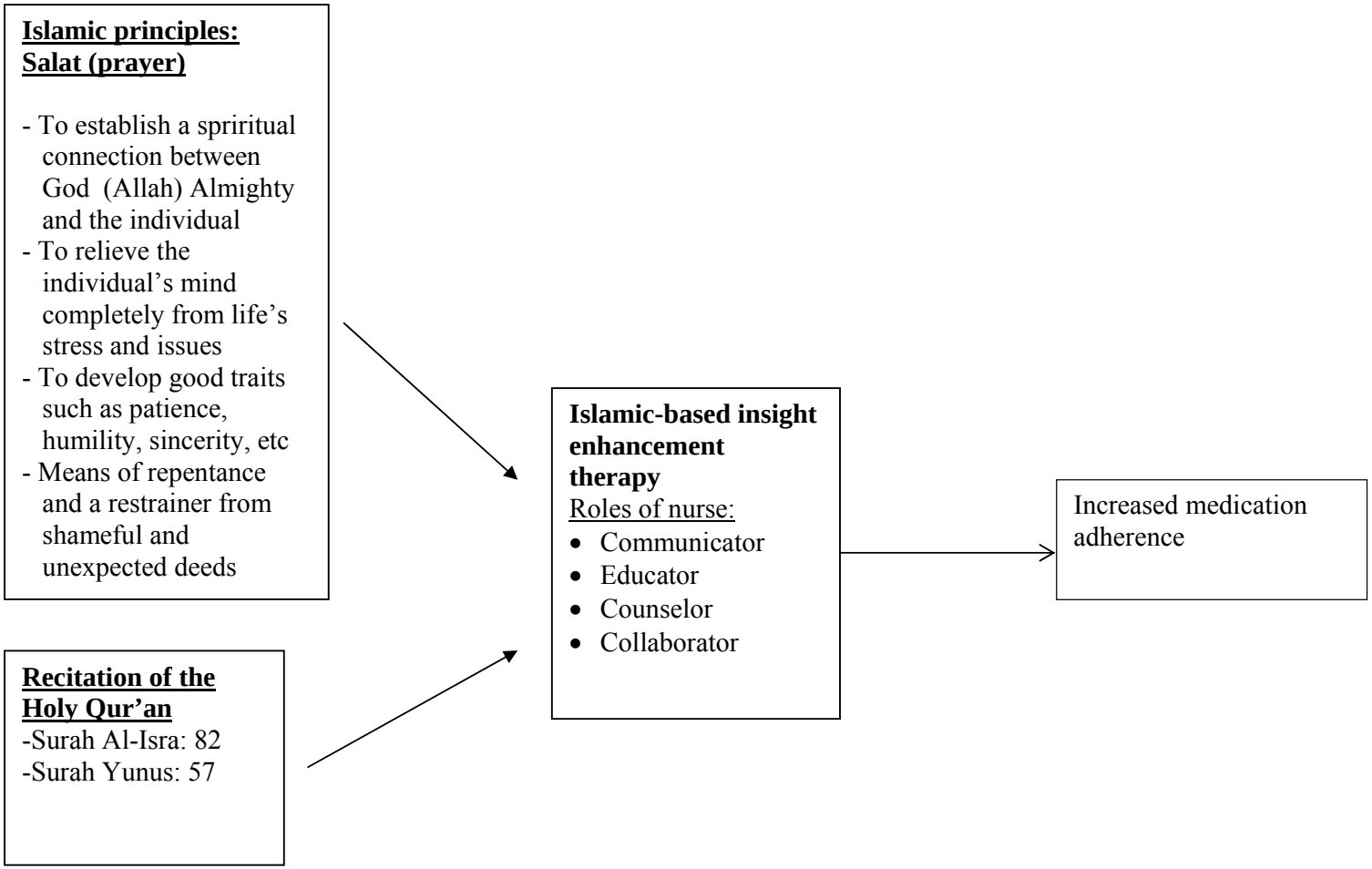


Figure 1. Conceptual framework of Islamic-based insight enhancement therapy on medication adhrence in persons with schizophrenia

Hypotheses

The hypotheses of the study are as follows:

1. The mean scores of medication adherence in persons with schizophrenia who receive Islamic-based insight enhancement nursing program are higher than those who receive routine care at 2 weeks and 1 month follow- up.

2. The mean scores of medication adherence in persons with schizophrenia who receive Islamic-based insight enhancement nursing program are different at 2 weeks and 1 month follow-up.

Definition of Terms

Islamic-based insight enhancement nursing program refers to a group intervention, which was developed based on Islamic principles, particularly salat (prayer) and recitation of the Holy Qur'an, the concept of insight and the concept of medication adherence, and the concept of nursing. The intervention was developed by the researcher to enhance medication adherence through enhancing the insight of persons with schizophrenia. The duration of the program is 5 weeks and is comprised of 9-sessions of group training which includes : (1) establishing a relationship between the researcher and the participant, (2) introduction of insight and medication adherence and the importance of religious practices related to enhancing insight, and (3) practicing mindfulness in performing salat and reciting the Qur'an related to enhancing insight. The program will be held twice weekly in the community setting.

Routine care program refers to the regular treatment that is provided by community mental health nurses for the persons with schizophrenia. The services include providing psychoeducation about the illness and medication to the patient and family, monitoring the signs and symptoms of the illness and the side effects of medication.

Medication adherence refers to the ability of persons with schizophrenia to adhere to their antipsychotic drugs as prescribed including correct dose and timing that can be measured by the Medication Adherence Rating Scale (MARS).

Scope of the Study

The study was conducted to investigate the effect of Islamic-based insight enhancement nursing program on medication adherence in persons with schizophrenia. The characteristics of the patients include, having being diagnosed with schizophrenia based on DSM- IV-TR, 2000 criteria for at least six months, aged between 18 and 60 years-old, have no serious conditions, an absence of substance abuse/dependency, have no organic brain disorder and are Muslim patients who are living in the community.

Significance of the Study

The study contributes to enhancing insight in persons with schizophrenia, the nursing profession especially for psychiatric nurses and the health care system. Firstly, this study could help persons with schizophrenia to be aware of their illness by enhancing their insight and medication adherence through religious practices such as salat and recitation of the Holy Qur'an. Secondly, the study could be applied in psychiatric health care services, particularly in the community setting to improve the quality of care for persons with schizophrenia. In addition, the Islamic-based insight enhancement nursing program could be used as a clinical guideline for psychiatric nurses, particularly for community mental health nurses and other healthcare providers to enhance insight and medication adherence in persons with schizophrenia. Thirdly, the findings also provide further research in the development of an insight intervention particularly for the Muslim population.

CHAPTER 2

LITERATURE REVIEW

The literature review of the study provides the whole understanding of the major components of this study. The study will review: An overview of schizophrenia, the concept of insight in persons with schizophrenia, Islamic principles, insight enhancement based on Islamic principles (in particular salat), the concept of medication adherence, therapy enhancing insight and medication adherence in persons with schizophrenia, the nursing concept of Peplau's interpersonal relations, Islamic-based insight enhancement nursing program on medication adherence in persons with schizophrenia, and summary of the literature. The review emphasizes theoretical and methodological dimensions.

1. An overview of schizophrenia
2. Insight in persons with schizophrenia
    - 2.1 Definition of insight
    - 2.2 Dimensions of insight
    - 2.3 The levels of insight
    - 2.4 The causes of impaired insight in schizophrenia
3. Islamic principles
    - 3.1 The five pillars in Islam
4. Insight enhancement based on Islamic principles (in particular salat) and the Holy Qur'an

5. The concept of medication adherence

    5.1 Definition of medication adherence in schizophrenia

    5.2 Factors influencing medication adherence in schizophrenia

    5.3 The relationship between insight and medication adherence

6. Therapy enhancing insight and medication adherence in persons with schizophrenia

7. The concept of Peplau's interpersonal relations

    7.1 Major concepts

    7.2 Components of interpersonal relations

    7. 3 Roles of nurse

8. Islamic-based insight enhancement nursing program on medication adherence in persons with schizophrenia

9. Summary of the literature review

An Overview of Schizophrenia

The World Health Organization (2004) has stated that approximately 450 million people suffer from mental and behavioral disorders worldwide. Schizophrenia is the worst delibitating psychiatric illness affecting 1% to 2% of the population (Vickar, North, Downs, & Marshall, 2008). The original name of schizophrenia is "dementia praecox" and was coined by Emil Kraepelin, a German psychiatrist in the late nineteenth and early twentieth century. The term schizophrenia was introduced in 1911 by the Swiss psychiatrist Eugene Bleuler. The word schizophrenia is a combination of two Greek words, schizein "to spilt", and phren,

"mind". Bleuler believed that a split happened between the cognitive and emotional aspects of a personality (Stuart & Laraia, 2001).

According to the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision (DSM -IV-TR, 2000), a person can be diagnosed with schizophrenia if he or she has three diagnostic criteria: first is characteristic symptoms. Two or more of the following symptoms, each present for much of the time during a one-month period (or less, if symptoms are remitted with treatment).

The symptoms include positive symptoms such as delusions, hallucinations, disorganized speech, which is a manifestation of formal thought disorder, grossly disorganized behavior (e.g. dressing inappropriately, crying frequently) or catatonic behavior. Negative symptoms consist of affective flattening (lack or decline in emotional response), alogia (lack or decline in speech), or avolition (lack or decline in motivation). Second is social/occupational dysfunction. This aspect is related to the capacity of individual functioning such as work, interpersonal relations, or self-care, and are markedly below the level achieved prior to the onset of the disease. The last is duration. In this component, the person should show continuous signs of the disturbance persisting for at least six months.

This six-month period must include at least one month of symptoms (or less, if symptoms are remitted with treatment). The National Institute of Mental Health (NIMH, 2009) classified the signs and symptoms of schizophrenia into three points: positive symptoms, negative symptoms, and cognitive symptoms. Positive symptoms are psychotic behaviors not shown in healthy people. The symptoms encompass hallucinations, delusions, thought disorders, and movement disorders. Hallucinations are things a person sees, hears, smells, or feels that no one else can see, hear, smell or

feel. Voices or auditories are the most common type of hallucination in schizophrenia. Delusions are false beliefs that are not part of the person's culture and do not change. Delusions can be bizzare, thought broadcasting, persecution, etc. Thought disorders are uncommon dysfunctional ways of thinking, called disorganized thinking. Movement disorders may present as agitated body movements, such as catatonia.

In contrast, negative symptoms are associated with disruptions to normal emotions and behaviors. These symptoms include a flat affect (a person's face does not move or he or she talks in a dull or monotonous voices). Anhedonia is the inability or lack of pleasure in everyday life. Avolition is the lack of ability to initiate and sustain planned activities. The last is alogia, speaking little or restricted speech. Cognitive symptoms include poor executive functioning, trouble focusing or paying attention, and problems with working memory. Moreover, NIMH (2009) reported the etiology of schizophrenia can be multifactors. The factors are genes and environment and different brain chemistry and structure. Kaplan, Sadock and Sadock (2000) stated that the causes of schizophrenia include genes and environmental factors, structural abnormalities of the brain, and the roles of neurotransmitters such as dopamine, glutamate, GABA and serotonin.

The onset of schizophrenia is between late teens and mid-thirties, despite some cases occuring at a late-onset (after 45), which happens more often in women, and schizophrenia rarely occurs in childhood (Kneils, Wilson, & Trigoboff, 2004). Schizophrenia can be categorized into five types: paranoid type, disorganized type, catatonic type, undifferentiated type, and residual type (DSM-IV-TR, 2000).

Insight in Persons with Schizophrenia

Definition of Insight

Numerous recent studies have explored the definition of insight. Most of them have a similarity in their description of insight. The Merriam-Webster Dictionary (2012) defines insight as an understanding or awareness of one's mental or emotional condition; especially recognition that one is mentally ill. Lu and Wang (2012) pointed out that insight in mental illness refers to a patient's understanding and judgment of his or her disorder. Ouzir, Azorin, Adida, Boussaoud, and Battas (2012) define insight as a complex state of awareness of patients of their own illness. Elmasri (2011) stated that insight is the ability of the patient to understand the objective condition of his or her illness, its nature and the optimum condition that would help in curing. David (1999), as cited in Rosell, Coakes, Shapleske, Woodruff and David (2003), defined insight as the ability to recognize that one is ill, a capacity to re-label symptoms as pathological phenomena and compliance with treatment regimens.

Dimensions of Insight

Several studies have investigated the dimensions of insight. Amador and David (1998), as cited in Chakraborty and Basu (2010), stated that insight includes: (1) awareness of a mental disorder, (2) an understanding of the social consequences of the disorder, (3) an awareness of the need of treatment, (4) an awareness of specific signs and symptoms of the disorder, and (5) the attribution of symptoms to the disorder. Bota, Munro, Ricci and Bota (2006) stated that insight comprises of five dimensions: (1) one's awareness of having a mental disorder, (2) the social consequences of the

illness, (3) the need for treatment, (4) the symptoms in particular, and (5) the relatedness of the symptoms to the disorder.

In addition, Beck, Baruch, Balter, Steer and Warman (2004) categorized insight into two categories: clinical insight and cognitive insight. Clinical insight is defined as a multidimensional construct which consists of three dimensions: 1) an awareness of an illness, 2) relabeling symptoms, and 3) recognizing the need for treatment. On the other hand, cognitive insight refers to the ability to evaluate abnormal experiences and recognize incorrect interpretations. Two components of cognitive insight include self-reflectiveness and self-certainty.

The Levels of Insight

Flashman and Roth (2004) as cited in Mysore, Parks, Lee, Bhaker, Birkett, and Woodruff (2007) proposed a classification of insight in schizophrenia that can be divided into three groups: (1) those with full insight (aware, correct attributers), (2) those aware of being unwell, but who misattribute their symptoms (aware, incorrect attributers), and (3) those unaware of being ill (unaware).

Sadock, Kaplan and Sadock (2007) stated that there are six levels of insight. These levels encompass: (1) complete denial of an illness, (2) slight awareness of being sick and needing help, but denying it at the same time, (3) awareness of being sick but blaming it on others, on external factors, or organic factors, (4) awareness that the illness is caused by something unknown in the patient, (5) intellectual insight is related to admission that the patient is ill and that symptoms or failures in social adjustment are caused by the patient's own particular irrational feelings or disturbances without applying this knowledge to future experiences, and (6) true emotional insight is

associated with emotional awareness of the motives and feelings within the patient and the important persons in his or her life, which can lead to basic changes in behavior.

The Causes of Impaired Insight in Schizophrenia

Casher and Bess (2012) found that there are three factors related to lack of insight which are: (1) neuropsychological (brain) deficits, (2) part of the primary psychiatric illness itself, and (3) a coping strategy of defensive denial to protect the patient against the distress of the awareness of his or her illness. Another model that is also linked with the cause of poor insight in schizophrenic patients is the impaired insight model of schizophrenia (Pijnenborg, Van der Gaag, Bockting, Van der Meer, and Aleman, 2011). The model was generated by integrating several components from previous models, such as the clinical model, the neuropsychological model, and the psychological denial model and combining them with the concept of social cognition and cognitive insight. The model focuses on improving insight by increasing the self-reflection of persons with schizophrenia.

According to Pijnenborg et al. (2011), there are three major aspects influencing self-reflection: non-social cognition, perspective taking, and stigma sensitivity. Non-social cognition in schizophrenia is associated with neurocognitive impairment, particularly executive functioning (Brune, Schaud, Juckel & Langdon, 2011). Jaramillo, Fuentes, and Ruiz (2009) found that deficits in non- social functioning include working memory, executive functioning, verbal memory, and vigilance which can contribute to poor social functioning and social skills. Perspective-taking in schizophrenia has a strong correlation with the theory of mind (ToM). Theory of mind (ToM) is one of the dimensions in social cognition. Theory of mind is a

cognitive ability to connect with mental states such as thoughts, beliefs, and intentions to people, allowing an individual to explain, manipulate, and predict behavior (Sprong, Schothorst, Vos, Hox, & Van England, 2007). Perspective-taking refers to a skill requiring a combination of cognitive and affective or emotional skills and the tendency or motivation to join with the activity (Gehlbach, 2004). Perspective-taking deficits and theory of mind are the crucial signs and symptoms in a psychological disorder. Ozer and Benet-Martinez (2006) pointed out that perspective-taking is associated with greater empathy, prosocial behavior, and more favorable treatment of the person or group whose perspective is taken.

The last component is stigma sensitivity. Persons with schizophrenia may face some negative consequences regarding their lack of awareness of their illness. Stigma sensitivity is associated with how the patients react and cope with the threat that the stigma influences on their illness by denying the illness. Stigma contributes to decreased patients' self-esteem and affects their ability to be involved in the community. Stigma and discrimination experiences are common occurrences in the daily life of schizophrenic persons. Dickerson, Sommerville, Origomi, Ringel and Parente (2002) stated that stigma may lead persons to experience rejection and to feel shame about their situation. Ying,Wolf, and Wang (2013) argued that cultural and philosophical beliefs can give rise to stigma and act as a barrier to rehabilitation and recovery in mental illness. Lysaker, Buck, Taylor and Roe (2008) defined stigma as negative stereotypic beliefs about mental illness and internalized stigma refers to the acceptance of those beliefs.

In addition, Amador (2006) stated that nearly 60% of the patients with schizophrenia and nearly 50% of the individuals with manic depression (with psychosis) were unaware of being ill. Two factors contribute to developing poor insight in schizophrenic patients. The first is psychological defense or adaptive coping mechanism and the other is neuropsychological deficits.

Psychological defense. Mayer- Gross (1920, as cited in Amador and Davis, 1998) stated that the defensiveness of patients with schizophrenia can be classified into two categories: denial of the future and denial of the psychotic experience. In the denial of the future category, patients were identified to deny the possibility of positive future events, for instance they expressed "despair". In contrast, in the denial of the psychotic experience category, patients were typically unware of the signs and symptoms of the illness.

Neuropsychological deficit. Babinski (1914, as cited in Amador and Davis, 1998) desribed anosognosia as a phenomena commonly occurring in functional psychoses. Babinski's description of anosognosia is the awareness of an illness in neurological disorders related to poor insight in schizophrenia. He characterized the anosognostic patient as displaying a lack of knowledge, awareness, or recognition of his or her disease. Neurological deficit can be caused by injury to the brain.

Surguladze and David (1999) stated that several factors should be taken into account in order to explain the psychopathology of poor insight in schizophrenia. The factors encompass cultural models of illness and health, intelligence and knowledge, doctor and patient relationship, symptomatology of the illness such as lack of insight associated with delusions and personality.

The relationship between Insight and Medication Adherence

Rossi, Pacifico and Stratta (2009) found that insight is one factor frequently contributing as a mediator in patient adherence to drug prescriptions. Several studies have been conducted to explore the relationship between insight and medication adherence of persons with schizophrenia. Droulout, Liraud, and Verdoux (2003) studied relationships between insight and medication adherence in subjects with psychoses. They found that medication adherence is related to the level of insight, and is independent from other patient demographic and clinical characteristics. Mohamed, Rosenheck, McEvoy, Swart, Stroup, and Jeffrey et al. (2009) investigated cross-sectional and longitudinal relationships between insight and attitudes toward medication and clinical outcomes in chronic schizophrenia. They found that greater patient understanding about their illness and more positive attitudes toward medication may improve outcomes.

Islamic Principles

The Five Pillars in Islam

Islamic principles are based on the Holy Qur'an and Hadith. The five pillars in Islam are a very important in Muslim belief. The five pillars include: 1) shahadah (a deep understanding and verbal acceptance of the oneness of Allah and the Prophet Muhammad as the final messenger), 2) salat (five compulsory daily prayers), 3) fasting (abstaining from eating and drinking during the month of Ramadhan), 4) zakat (giving charity to the poor),and 5) hajj (pilgrimage to Mecca, if means provide).

Shahadah (profession of faith) is the first pillar of Islam, and is related to witness the oneness of God (Allah) by reciting the creed "There is no God but God and Muhammad is the Messenger of God". The word LA ILAHA ILLA ALLAH is a decisive criterion by which a person is judged to be a Muslim or a disbeliever. Without this proclomation a person cannot be a Muslim. This statement expresses a Muslim's complete acceptance and total commitment to Islam. The crucial meaning of shahadah is to remind ourselves that there is only one God (Allah) and the Prophet Muhammad is his Messenger. The concept of shahadah according to Sh. Hamoud M Al-Lahim (2003) is stated that several main points should be taken into account including: (1) divinity, (2) self- sufficiency, (3) the capability of doing everything, (4) the absolute life which is unaffected by perishment, (5) alertness, (6) inclusive proprietorship, (7) knowledge, (8) pride and grandeur, and (9) merciful beneficence. The main points included in shahadah can be applied to increase self-reflection in schizophrenia. The concept of shahadah provides a deep understanding for an individual for the remembrance of God, despite the persons suffering from mental illness, they still need to remember God. By always remembering Allah, the patients will have understanding about their illness and treatment. Shahadah guides the person always to do the right things in daily life.

Salat (prayer) is the second pillar. Salat is the five compulsory daily prayers. It is based on the belief that a person has a direct and deep relationship with God. Each prayer is accompanied by postures and actions and comprises of recitations from the Qur'an, in Arabic words and individual petitions. When Muslim pray, they must face toward Mecca. Salat can help the persons with schizophrenia to enhance their self-awareness of the illness. Salat can be performed alone or in a group. Performing prayers at specified time intervals makes certain that we keep God (Allah) and the Day

of Judgement on our minds throughout the entire day. It also helps us to focus on doing good and asking Allah for help and giving thanks. Muslims believe that the first thing that they will be brought to account for on the Day of Judgement is prayer. Prayer can purify the heart, by performing prayer five times a day, an individual achieves spiritual devotion and moral elevation.

Salat can be performed alone or in a congregation. Performing prayers at specified time intervals makes certain that we keep God (Allah) and the day of judgement on our minds throughout the entire day. It also helps people to focus on doing good and asking Allah for help and giving thanks. Muslims believe that the first thing that they will be brought to account for on the Day of Judgement is prayer. Prayer can purify the heart, and by performing prayers five times a day an individual achieves spiritual devotion and moral elevation.

Moreover, the wisdom of prayer in Islam includes firstly to establish a spriritual connection between God Almighty and the individual. The second is to relieve the individual's mind completely from life's stress and issues, by taking a psychological and physical break, and it also helps a person to develop good traits such as patience, humility, sincerity, courage, hope, stability, confidence, inner peace, equality, unity and an expression of thankfulness for God. The other essential elements of prayer are related to a means of repentance and a restrainer from shameful and unexpected deeds. In order to pray, Muslim have to purify their body by performing ablution.

The meaning of salat consists of five dimensions. The first is a form of worship, the expression both of praise and of supplication. The second is to achieve a deep sense of satisfaction. The third is humility. The fourth is to develop human dignity. The last is to indicate a sense of equality. Other crucial aspects in salat that should be taken into account are the steps of salat. They are: (1) the recitation of "Allah Akbar" (Allah is greatest) with the hands open on each side of the face, (2) the recitation of Fatiha (opening chapter of the Qur'an), followed in the first two raka'as by another passage or passages, while standing up-right, (3) bowing from the hips, the hands placed on the knees, (4) straighthening up, (5) sliding to the knees and the first prostration with face to the ground, (6) sitting back on the heels, and (7) a second prostration.

Zakat is the third pillar. Zakat (almsgiving) is associated with social responsibility to poor people. The meaning of zakat is purification and growth. Zakat is an annual obligatory charity on every Muslim.There are two types of zakat: zakat al-mal and zakat al-fitr. Zakat al-mal can be paid at any time of the year as long as the nisab (the minimum amount of wealth owned by an individual for one year that obligates the individual to pay zakat) remains in one's possession for one year. The requirement is 2.5% of one's excess wealth. Zakat al-fitr must be paid by the person who witnesses part of the month of Ramadhan and part of the month of Shawwal. Although, the schizophrenic persons do not pay zakat but the essential concept of it can be applied in order to increase self-reflection.

Zakat is considered part of an individual's service to God. The person should thank Allah for the gifts and share with other people. The concept of zakat prescribes payment of fixed proportions of a Muslim's possessions for the welfare of the entire society, particularly for the poor. It has an important role to help us to rid ourselves of our love for money and also purify our wealth. In other words, zakat is also the main act of worship which has to be performed monetarily. There are several benefits of zakat, for instance, zakat indicates a person's sincerity of faith, cleanses a bad character of a person, delights the heart, prevents extreme financial disparity and purifies wealth. The main concept of zakat emphasizes that the patients learn how to care about their society and also as ibadah (worship). It also has significant influences in order to develop self-reflection for schizophrenic patients. The patients can gain an understanding about the importance of sharing with the community, eventhough they have a mental illness they still have a role in their environment.

Fasting (sawm), is the fourth pillar. Fasting during the month of Ramadhan is an obligation for Muslim. In the Holy Qur'an it is stated that fasting is an act of deep personal worship in which Muslims seek a richer perception of God (Allah). Fasting also is associated with self-control. During Ramadhan, all Muslims must fast from dawn until sundown and abstain from food, drink, and sexual relations with their spouses. Those who are sick, elderly, and children under twelve years of age may be excused from this.

Hajj (the pilgrimage to Mecca), is the fifth pillar. Hajj is the most significant manifestation of Islamic faith and unity in the world. Hajj is a once in a lifetime duty that is the peak of a Muslim's religious life. Every Muslim who is physically and economically able should try to perform hajj. In performing the hajj,

Muslims follow the order of ritual that the Prophet Muhammad performed during his last pilgrimage.

Insight Enhancement based on Islamic Principles

Salat (prayer) as the second pillar in Islamic principles is relevant for enhancing the insight of schizophrenia persons. Salat is the five compulsory daily prayers. It is based on the belief that a person has a direct and deep relationship with God (Allah). Currently, the studies which investigate the relationship between salat and insight enhancement are still rare. Suryani (2013) studied salat and dhikir to dispel voices: the experience of Indonesian Muslims with chronic mental illness in an outpatient unit of a West Java Psychiatric Hospital. The method of the study is descriptive phenomenology with 24 participants. The results showed that the participants found a personal way to dispel voices by doing salat and dhikir everytime they heard voices.

Salat is a very fundamental aspect in a Muslim's life. Ashy (1999) stated that salat has a lot of benefits such as to reduce psychological stress and to keep structure and discipline in one's life and also the way of which a person can express feelings, hopes, and needs. Salat can be one type of religious therapy particularly for persons with schizophrenia in order to enhance their insight. It is also associated with increasing levels of self-reflection that can be achieved by purifying the mind, which calls for the utmost form of human struggle (Ahmad, 2013). Muslim people need to reflect on what they may have uttered as well as the way they may have acted in their daily life. Salat has also specific movements and recitations of the words of Allah. Salat

can help the schizophrenic persons to understand and accept their illness and seek treatment from Allah.

Salat has a very positive effect not only on the physical aspects but also on the mental aspects. Salat also plays an important role to increase the faith and *tawakkul* (trust in Allah). These components are necessary in Muslim belief. It can help the persons particularly with mental illness such as schizophrenic persons to enhance their insight of their illness. When Muslims perform salat, they should prepare both their physical aspects and mental aspects. Salat must be performed with humility in both a physical and mental manner. It involves the tongue, the heart, the mind and the whole body. The most important factor in performing salat is mindfulness or concentration.

Murrad (1999) stated that in performing salat a variety of Quranic verses and *duas* (supplication) are used to achieve greater concentration and awareness. The Holy Qur'an states: *"Successful indeed are the believers, those who offer their salah (prayer) with all solemnity and full submissiveness"* (surah Al-Mu'minoon (23:1-2).While performing salat, the whole brain concentrates on Allah so that our mind will be free from tension (Javeed (2012). Moreover, being mindful in prayer can help Muslims to develop a positive state of mind and keep unpleasant thoughts and feelings arising from the past. After achieving concentration or mindfulness in salat, Muslims will feel more calm and peaceful. Hence, following this mechanism is very useful in helping the persons with schizophrenia to enhance their insight, both clinical insight and cognitive insight, and will change the negative attitudes toward the illness and medication as well. They will find it easier to cope with their illness problems and adhere to their treatment.

The Concept of Medication Adherence

Definition of Medication Adherence in Schizophrenia

Several studies described a similar definition of medication adherence in persons with schizophrenia. Osterberg and Blaschke (2005) stated that adherence to medication is generally defined as the extent to which patients take medications as prescribed by their health care providers. Masand and Narasimhan (2006) pointed out that adherence or compliance with medication reflects the frequency with which a patient takes medication as prescribed.

Factors Influencing Medication Adherence in Schizophrenia

Several qualitative studies have been conducted to address this crucial issue. Kikkert, Schene, Maarten, Robson, Born, and Helm et al. (2006) found that five factors contributed to medication non-adherence in schizophrenia patients including medication efficacy, external factors such as patient support and therapeutic alliance, insight, side effects, and attitudes. They also stated that medication adherence can be improved by increasing the positive aspects of medication, enhancing insight and fostering positive therapeutic relationships with patients and carers.

Huang, Cheng, Lai, and Hsieh (2009) found several factors associated with medication adherence in schizophrenia. First, patient-related factors included religious beliefs and insight. Second, illness factors such as severity, cognition impairment, and substance abuse. Third, medication -related factors, including adverse drug reactions, route of administration, complexity of regimen, and effectiveness. The last factor is environment such as social support and therapeutic alliance.

In another qualitative study, Pyne, McSweeney, Kane, Harvey, Bragg, and Fisher (2006) reported that three factors contributed in non-adherence to medication which included barriers, facilitators, and motivators agreement. Barriers include lack of support, impaired functioning, insight and knowledge, fear, and self-stigma. Facilitators can be reminders, trust from the provider and family, and dosing. The last are motivators such as the example of others, avoidance of bad consequences, and improved relationships. These factors play an important role to overcome the problems in medication adherence for persons with schizophrenia.

Patel, Quanhong Ni, Clayton, Lam, and Parks (2010) pointed out the risk factors for poor adherence in schizophrenia which included lack of insight into the illness, poor social support, recent diagnosis, a poor relationship with the prescribing clinician, and substance abuse disorders. Lan, Shiau, and Lin (2003) highlighted that increasing a positive attitude towards drug therapy resulted in better drug compliance. Gilmer, Dolder, Lacro, Folsom, Lindamer, and Garcia et al. (2004) have explored some risk factors in medication adherence. They found that the risk factors related to adherence, included age, gender, ethnicity, comorbid substance abuse disorder, living situation, and antipsychotic regimen.

According to Medina, Salva, Ampudia, Maurino and Larumbe (2012) medication adherence in schizophrenia is a multidimensional concept that is based on four main factors: (1) sociodemographic variables, such as age, sex, occupation, level of education, and social status; (2) illness-related factors such as the type and severity of symptoms, illness insight, and the course of the illness; (3) treatment-related factors, such as dosage schedule complexity, frequency and intensity of side effects, and length of treatment; (4) a patient's general values and attitudes (illness attitudes). Hence,

Medina et al. (2012) stated that patients' decisions to be adherent were because of the interaction among the different factors, for instance the degree of global psychopathology, possible substance abuse, the side effects experienced or perceived subjective well-being.

Huang, Cheng, Lai and Hsieh (2009) classified the factors related to medication adherence into four crucial factors. First, patient-related factors which included religious beliefs and insight. Second, illness-related factors, such as severity, cognition impairment, and substance abuse. Third, medication-related factors, for example, adverse drug reactions, the route of administration, the complexity of regimen, and effectiveness, and affected medication compliance. Lastly, environmental-related factors which includes social support and therapeutic alliance. In addition to the above mentioned factors, Donohoe (2006) found that several factors influenced medication adherence in persons with schizophrenia, and included (1) patient demographic factors, such as age, sex, marital status, and ethnicity, (2) illness-related factors, (3) medication-related factors, and (4) environmental factors, for instance, the level and nature of family involvement, social support, and the quality of a doctor-patient relationship.

To conclude, most of the studies had commonalities in relation to the factors influencing medication adherence in schizophrenia which can be divided into three factors: medication-related factors, patient- related factors, and environment-related factors. Medication -related factors include the effects and side-effects of medication and dose frequency. Patient-related factors were those such as subjective experiences of medication and illness, negative attitudes about medication, poor insight into one's illness, history of non-adherence, stigma, forgetfulness, and substance abuse.

On the other hand, environmental-related factors consist of poor therapeutic alliance and lack of social support. Poor insight has significant correlations with medication adherence. The more that patients are aware of their mental illness, the more positive adherence is to their medication.

Therapy Enhancing Insight and Medication Adherence in Persons with Schizophrenia

A number of previous studies have investigated insight therapy in schizophrenic patients. Pijnenborg, Van der Gaag, Bockting, Van der Meer, and Aleman (2011) studied REFLEX , a social-cognitive group treatment to improve insight in schizophrenia: Study protocol of a multi-center RCT. They called the model "REFLEX", a brief psychosocial intervention to improve insight in schizophrenia patients. A total of 128 patients were recruited for this study. Eight mental institutions participated in the study. The REFLEX intervention consists of a-12 group training sessions, comprising of three modules of four sessions each. The modules include: coping with stigma, you and your personal narrative, and you in the present.
The result of this study was REFLEX which can enhance insight in persons with schizophrenia.

Elmasri (2011) investigated the effect of an educational program on insight into illness and attitudes toward medications among schizophrenic persons. The study was conducted at an in-patient clinic at Benha Governmental Hospital for Mental Health. The study was a-quasi experimental design. The total sample size was 40 schizophrenic patients which included 20 patients in the experimental group and 20

patients in the control group. A-12 session educational program was employed, and each session was 45 minutes over a 12 week period one time/week. Each session had its own title and objective related to its content. Both groups (control and experimental) were interviewed individually to collect follow-up assessment data related to insight and drug attitude scales for 2 weeks twice/week. The results of this study showed that the total insight and a patient's attitudes toward medications did not significantly correlate with the number of hospital admissions, the duration of a patient's illness, or the age of the onset of the disease.

Emmerson, Granholm, Link, McQuaid and Jeste (2009) studied insight and treatment outcome with cognitive-behavioral social skills training for older people with schizophrenia. The study was undertaken in San-Diego. A randomized controlled trial was utilized in this study. A total sample of 62 middle -aged and older people (mean age 53 years; range 42-72 years) diagnosed with schizophrenia and schizoaffective disorder were included in this study. The subjects received 24 2-hour weekly group psychotherapy sessions with a half -hour lunch break. The modules comprised of challenging thoughts, asking for support, and solving problems. Groups were led by two therapists. Training and weekly supervision were provided, including a review of session videotapes. The result of this study found that the participants who received cognitive-behavioral social skills training had high levels of insight and better levels of functioning compared with the usual treatment received.

Lysaker, Buck, Salvatore, Papolo and Dimaggio (2009) stated that several methods can be used to improve lack of awareness in patients with schizophrenia. Firstly, cognitive-behavioral therapy (CBT) is a psychotherapy technique that helps patients to identify and correct maladaptive beliefs and behaviors.

CBT also can be a natural intervention for increasing awareness of illness. Secondly, Chadwick's person-based cognitive therapy is an approach that incorporates a range of principles. This therapy focuses on cognition and seeks to promote self-acceptance and self-reflection. For instance, instead of exploring the plausibility of the belief, or supplying alternative beliefs, patients are assisted to develop their own coherent and consensually acceptable version of what is wrong.

Thirdly, motivational interviewing may be utilized to help the schizophrenia patients to explore their views about what mental illness means and help them to understand the positive and the negative consequences of their actions. This approach might be helpful as it avoids emphasizing or creating undesirable power dynamics and focuses on enhancing confidence and self-esteem, and allows the patient to develop an awareness of his or her illness that is not contaminated with stigma. Motivational interviewing is a pyschotherapeutic approach designed to help the patients to increase medication adherence.

Fourthly, rehabilitation approaches aimed at an awareness of an illness that may improve as persons have positive and affirming experiences that assist them to contend with the threats to self-esteem inherent in stigma.

Lastly, two other approaches for developing an awareness of mental illness are psychoeducation and medication. Psychoeducation helps the persons to learn the facts about their mental illness but not necessarily to decide whether those facts are relevant to themselves in a meaningful way. New person-centered approaches can be one of the good approaches to include in psychoeducation. Regarding medication, the need to produce a lot of new drugs to enhance cognitive functions such as attention will help

patients to think more clearly about themselves and their conditions and to take advantage of the interventions noted previously.

To conclude, recent studies have found various therapies enhancing insight and medication adherence. They encompass a social-cognitive group treatment "REFLEX", educational program, cognitive-behavioral social skills training, cognitive-behavioral therapy (CBT), motivational interviewing, rehabilitation approaches, psychoeducation and medication. Each technique has its own goal and session. All treatments can be employed to help the patients with schizophrenia to improve their insight.

The Concept of Interpersonal Relations

Major Concepts

Peplau's theory is a middle range theory, which focuses on building an interpersonal relations between the nurse and the patient in achieving the treatment goal.The major concepts of Peplau's theory (1952, as cited in Tomey & Alligood, 2006) encompass: (1) the purpose of nursing is to help others identify their difficulties, (2) nurse should apply principles of human relations to the problems based on all experiences, (3) the phases of interpersonal process include roles in nursing and methods for studying nursing, (4) nursing is therapeutic and a healing art, assisting an individual who is sick or in of health care, (5) nursing is an interpersonal process because it involves interaction between two or more individuals with a common goal, (6) the nurse and patient work together in achieving the goal, and (7) the attainment of goal is achieve Kd by using a series of steps following a series of pattern.

Components of Interpersonal Relations

The components of Peplau's theory consist of: (1) person: a developing individual that tries to reduce anxiety caused by needs, (2) environment: existing forces outside the person and in the context of culture, (3) health: a word symbol that implies forward movement of personality and other ongoing human processes in the direction of creative, constructive, productive, personal and community living, and (4) nursing: a significant therapeutic interpersonal process. It functions cooperatively with other human process that make health possible for persons in communities.

Roles of Nurse

Several roles of nurse based on Peplau (1952, as cited in Tomey & Alligood, 2006) include stranger, teacher, resource person, counselor, surrogate, and leader.

Stranger. Nurse receives the individual in the same way one meets a stranger in other life situations and provides an accepting climate that builds trust.

Teacher. Nurse communicates knowledge that related to individual's need or interest.

Resource person. Nurse provides a specific needed information that assist in understanding of individual's problem or new situation.

Counselor. Nurse helps individual to understand and integrate the meaning of current life situations, provides guidance and encouragement to make changes.

Surrogate. Nurse helps individual to clarify domains of dependence, interdependence and independence and acts on individual behalf as an advocate.

Leader. Nurse helps individual to assume maximum responsibility for meeting treatment goals in mutually satisfying relationship.

Islamic-Based Insight Enhancement Nursing Program on Medication Adherence in Persons with Schizophrenia

Islamic-based insight enhancement nursing program on medication adherence in persons with schizophrenia was developed based on the Islamic principles (in particular salat) and the Holy Qur'an (surah *Al-Isra:*82 and surah *Yunus:* 57), the concept of insight in persons with schizophrenia, the concept of medication adherence and the nursing concept of interpersonal relations. The duration of the program was 5 weeks and consisted of 9-sessions of group training. The program focused on: (1) establishing a relationship between the researcher and the participant, (2) introduction of insight and medication adherence and the importance of religious practices related to enhancing insight, and (3) practicing mindfulness (khusu') in performing salat and reciting selected Quranic verses related to enhancing insight. The program was held twice weekly. Each session took 60 minutes. The program was evaluated at 2 weeks and 1 month follow-up.

With regard to the nursing concept, Peplau's theory was integrated in the intervention program. The key assumption of Peplau's theory is therapeutic nurse-client relationship to clarify and identify the client's needs, feelings, problems, and ideas (Peplau 1952, as cited in Tomey & Alligood, 2006). The major concepts of Peplau's theory encompass: (1) the purpose of nursing is to help others identify their difficulties, (2) nurse should apply principles of human relations to the problems based

on all experiences, (3) the phases of interpersonal process include roles in nursing and methods for studying nursing, (4) nursing is therapeutic and a healing art, assisting an individual who is sick or in of health care, (5) nursing is an interpersonal process because it involves interaction between two or more individuals with a common goal, (6) the nurse and patient work together in achieving the goal, and (7) the attainment of goal is achieved by using a series of steps following a series of pattern.

This theory was used because it focuses on establishing interpersonal relationship and therapeutic communication between nurse-patient in order to achieve the treatment goal.These two components are very essential in treating persons with schizophrenia particularly for enhancing medication adherence. These components had been integrated in each session of the intervention program. The interpersonal relationship between the nurse and client begin with build trust, rapport, establish a therapeutic environment. Caring and empathy also were incorporated in the intervention program to develop positive interpersonal relationship and therapeutic process between the nurse and client.Therapeutic communication techniques such as listening, broad openings, clarification, reflection, informing, focusing, sharing perceptions, and suggesting also were used in each activity of the intervention program. These techniques are useful to identify the client's needs, feelings, problems, and ideas related to religious practices to enhancing medication adherence.

With regard to nurse's roles, several roles of nurse had been performed in each session of the intervention program. They consist of roles of nurse as communicator, educator, counselor, and collaborator. Nurse's role as communicator: (1) building therapeutic relationship with the participants to encourage trust, (2) establishing therapeutic communication with the participants, (3) using therapeutic

communication techniques such as active listening, broad openings, informing, reflection, focusing and sharing perceptions, (4) caring for the participants' illness experiences, (5) empathic understanding by entering the participants' perceptions and feelings about their ilness.

Nurse's role as educator: (1) assists and guides the participants' understanding about insight and medication adherence, (2) assists and guides the participants' understanding about the importance of religious practices related to enhancing insight and medication adherence, (3) educates the participants about the importance and benefits of taking medication regularly, (4) educates the participants about how to manage side effects of medication, and (5) educates the participants about the importance of doing religious practices related to enhancing insight and medication adherence.

Nurse's role as counselor: (1) helps the participants define the treatment goal , plan action and gain insight, (2) encourages the participants to discuss their experiences regarding insight, medication, and religious practices (3) helps the participants make decisions about their medication, (4) guides the participants in the development skills and strategies for dealing with their illness and medication, (5) encourages the participants to express their feelings and thoughts regarding their insight, medication, and religious practices, (6) helps the participants promote their self-care ability for practicing religious activity and taking medication regularly.

Nurse's role as collaborator: (1) collaborates with family caregiver to monitor the participants' activity regarding their religious practices and medication at home, (2) collaborates with community mental health nurses in monitoring religious practices, medication and side effects of medication of the participants.

Numerous studies have examined applying Peplau's theory in enhancing medication adherence in persons with schizophrenia. Lin and Tzeng (2011) studied application of Peplau's theory in the nursing care of the patient with paranoid type of schizophrenia.The findings revealed that applying Peplau's theory can help the patient building positive interpersonal relationship to improve personal coping skills and treatment adherence, and help the nurse be aware of their relationship. Lan, Shiau, and Huang (1997) studied applying Peplau's theory in improving drug compliance of a schizophrenic patient. The results showed that based on Peplau's theory, the nurse's roles as an assessor and educator are important in improving drug compliance by establishing therapeutic relationship, providing information about medication, and monitoring the effects of medication.

To conclude, Peplau's theory is relevant and applicable to be integrated in the Islamic-based insight enhancement nursing program to enhance medication adherence in persons with schizophrenia. Roles of nurse as communicator, educator, counselor, and collaborator are essential part in enhancing medication adherence of schizophrenic persons.

Summary of the Literature Review

In summary, non-adherence to medication is an essensial concern in treating persons with schizophrenia. Lack of insight is one of the main factors associated with non-adherence to medication in schizophrenia. A number of previous studies have investigated the relationships between insight and medication adherence in persons with schizophrenia. Insight is a very crucial component for schizophrenic

patients. Most of the literature has defined insight as the ability of schizophrenic patients to understand their own illness, its nature, a capacity to re-label symptoms as pathological phenomena and adhere to treatment and medication. Insight can also be divided into two types: clinical insight and cognitive insight. Clinical insight is defined as a multidimensional construct which consists of three dimensions: 1) an awareness of an illness, 2) relabeling symptoms, and 3) recognizing the need for treatment. On the other hand, cognitive insight refers to the ability to evaluate abnormal experiences and recognize incorrect interpretations.Two components of cognitive insight include self-reflectiveness and self-certainty. Medication adherence is generally defined as the extent to which patients take medications as prescribed by their health care providers. Several factors influencing medication adherence in schizophrenia can be divided into three factors: medication-related factors, patient- related factors, and environment-related factors. Insight is one major factor contributing as a mediator in schizophrenic patients' adherence to drug prescriptions. Hence, it is important to investigate the effect of an Islamic-based insight enhancement therapy on medication adherence in persons with schizophrenia.

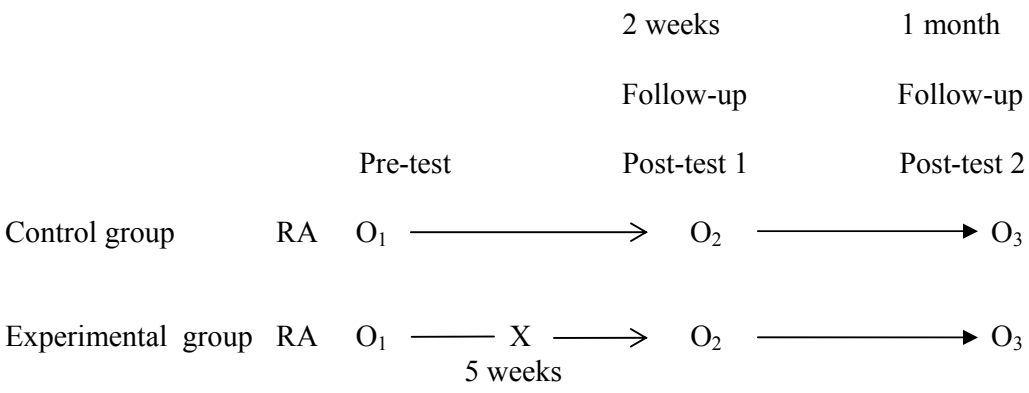
CHAPTER 3

RESEARCH METHODOLOGY

The research methodology of this study consists of research design, variables, setting, population, sample, instrumentation, ethical considerations, data collection, and data analysis.

Research Design

The study was a randomized controlled trial with pre and post test and repeated measures design to investigate the effect of Islamic-based insight enhancement nursing program on medication adherence at 2 weeks and 1 month follow-up in the community setting in Aceh Besar District, Aceh Province. The participants were divided into two groups: the experimental group and the control group by using the randomization technique.



Note:

RA refers to the randomization for the persons with schizophrenia in the Community Health Center.

O_1 refers to the pre-test score of the persons with schizophrenia (before receiving intervention).

X refers to the 5 weeks of Islamic-based insight enhancement nursing program.

O_2 refers to the post-test score 1 of the persons with schizophrenia at 2 weeks (after receiving intervention).

O_3 refers to the post-test score 2 of the persons with schizophrenia at 1 month (after receiving intervention).

Variables

Variables of the study included independent, dependent, and confounding variables. The independent variable of the study was the Islamic-based insight enhancement nursing program. The dependent variable was medication adherence. The confounding variables included age, gender, duration of the patient's illness and number of hospitalizations. The confounding variables were controlled because they may influence the intervention process and the study outcomes. The confounding variables were controlled by using random assignment. The influential confounding variables were treated as covariates in the subsequent statistical analysis. This way helped to increase internal validity.

Research Setting

The study was conducted in the community setting in Aceh Besar District, Aceh Province, Indonesia. Aceh Besar District was chosen because this district is one of the largest districts in Aceh Province, which provides community mental health services. The researcher recruited the persons with schizophrenia who attended in the Community Health Center and met the inclusion criteria.

Population and Sample

Population

The population of the study was Muslim patients with schizophrenia who were living in the community in Aceh Besar District, Aceh Province, Indonesia. The potential participants of the study were the patients with schizophrenia who met the inclusion criteria.

Sample Size

The sample size was estimated by using power analysis. The effect size was calculated based on the previous study. With an expected power of .80 (1-β), the level of significance (α) was set at .05. However, the researcher did not find any previous studies related to Islamic-based insight enhancement nursing program on medication adherence in persons with schizophrenia, therefore, based on rules of thumb the researcher refered to Cohen's table and used the medium effect size (d = .50)

to determine the sample, which yielded 50 participants per group (Cohen, 1988). Hence, in order to prevent attrition, the researcher added the number of participants equal to 10% of each group. Thus, there were 55 participants required for each group. The total was 100 eligible participants who participated in this study.

Sampling Technique

Purposive sampling was used for recruiting eligible participants for this study. The inclusion criteria of the study were as follows:

1. Patients who were living in the community in Aceh Besar District, Indonesia.
2. Patients who had been diagnosed with schizophrenia based on DSM-TR-2000 criteria for at least six months.
3. Aged between 18 and 60 years-old.
4. No history or presence of an organic brain disorder, concurrent substance abuse or dependency, or severe mental retardation.
5. Able to communicate verbally in Indonesian language.
6. Able to read or write in Indonesian language.
7. Had low adherence to medication based on the MARS.
8. Had low insight based on the BCIS and the BIS.
9. Had midly ill based on the BPRS.

Randomization

Randomization or random assignment is a corner stone of the experimental design. It can prevent selection bias and ensure that each participant has an equal chance of receiving any treatment and also provides a basis for the statistical methods (Suresh, 2011). In this study, the researcher used the minimization program. The researcher recruited the participants who met the inclusion criteria to randomize. The research assistants collected the data at baseline, then, the researcher assigned randomly the eligible participants by software. After collecting the data at baseline, the confounding variables included age, gender, number of hospitalizations, and the duration of the patient's illness were entered into the minimization program to assign the participants to the experimental group or the control group.

Instrumentation

The instruments consist of two parts. The first was the experimental instrument and the second was instruments for data collection. The instruments had been developed in the English language and were translated into Indonesian language by using the back translation technique. The instruments also had been tested for content validity and reliability. The detailed descriptions are presented as follows:

Experimental Instrument

The experimental instrument comprises of the Islamic principles (in particular salat) and recitation the Holy Qur'an, the concept of insight, the concept of medication adherence in persons with schizophrenia and roles of nurse.

The intervention was divided into three phases: introduction phase, working phase and termination phase. The intervention program was developed by the researcher and was based on consultation with an expert in Islamic counseling and psychotherapy. The duration of the program was 5 weeks and comprised of 9-sessions of group training which included : (1) establishing a relationship between the researcher and the participant, (2) introduction of insight and medication adherence and the importance of religious practices related to enhancing insight, and (3) practicing mindfulness in performing salat and reciting selected Quranic verses related to enhancing insight. The program was held twice weekly. Each session took 60 minutes. The program was evaluated at 2 weeks and 1 month after completing the program. The details of the intervention are as follows:

Introduction phase, week 1, session 1: Establishing a relationship between the researcher and the participant.The objectives of session 1 were: (1) to understand the aim, the benefits and the procedure of the intervention program, (2) to establish a relationship of trust between the researcher and the participant, and (3) to understand the materials of the intervention program.

Nurse's role as a communicator: (1) building therapeutic relationship with the participants to encourage trust, (2) establishing therapeutic communication with the participants, (3) using therapeutic communication techniques such as active listening, broad openings, informing, reflection, focusing and sharing perceptions, (4) caring for the participants' illness experiences, (5) empathic understanding by entering the participants' perceptions and feelings about their ilness.

Working phase, week 1, session 2: Introduction of insight and medication adherence. The objectives of session 2 were: (1) to understand insight and medication adhrence, (2) to understand the importance of religious practices related to enhancing insight, and (3) to practice salat.

Nurse's role as a educator: (1) assess and discuss with the participants about their problems, (2) assists and guides the participants' understanding about insight and medication adherence, (2) assists and guides the participants' understanding about the importance of religious practices, (3) educates the participants about the importance of taking medication regularly, (4) educates the participants about the benefits of taking medication and how to manage side effects of medication, (5) educates the participants about the importance of insight, (6) teachs the participants to practice salat.

Nurse's role as a counselor: (1) helps the participants define the treatment goal , plan action and gain insight, (2) encourages the participants to discuss their experiences regarding insight and medication, (3) helps the participants make decisions about their medication, (4) guides the participants in the development skills and strategies for dealing with their illness and medication, (5) encourages the participants to express their feelings and thoughts regarding their insight and medication, (6) helps the participants promote their self-care ability for taking medication regularly.

Nurse's roles as a collaborator: (1) collaborates with family caregiver to monitor the participants' activity regarding their religious practices and medication at home, (2) collaborates with community mental health nurses in monitoring religious practices, medication and side effects of medication of the participants.

Week 2, session 3: Salat and reciting the Qur'an related to enhancing insight. The objectives of session 3 were: (1) to understand the aim and the meaning of salat, (2) to understand the importance of mindfulness *(khusu)* in performing salat related to enhancing insight, and (3) to practice the mindfulness technique in performing salat related to enhancing insight.

Nurse's role as a educator: (1) assess and discuss with the participants regarding their religious activities, (2) assists and guides the participants' understanding about the importance of mindfulness (khusu') in salat, (3) assists and guides the participants' understanding about the importance of doing religious practices related to enhancing insight and medication adherence, (3) educates the participants about the importance of doing religious practices, (4) educates the participants about the benefits of doing religious practices to enhancing insight and medication adherence, (5) teachs the participants how to practice mindfulness in salat.

Nurse's role as a counselor: (1) helps the participants define the treatment goal related to religious practices, (2) encourages the participants to discuss their experiences regarding religious practices , (3) guides the participants in the development skills in performing religious practices, (5) encourages the participants to perform salat related to enhancing insight and medication adherence, (6) helps the participants promote their self-care ability in practicing mindfulness (khusu') in salat.

Nurse's roles as a collaborator: (1) collaborates with family caregiver to monitor the participants' religious practices related to mindfulness (khusu') in performing salat at home, (2) collaborates with community mental health nurses in monitoring religious practices of the participants.

Week 2, session 4: Salat and reciting the Qur'an related to enhancing insight. The objectives of session 4 were: (1) to understand the definition of reciting the Qur'an *(tadabbur Qur'an)* , (2) to discuss the benefits of tadabbur Qur'an related to enhancing insight, and (3) to understand the techniques in performing tadabbur Qur'an.

Nurse's role as a educator: (1) assess and discuss with the participants regarding recitation of the Holy Qur'an related to enhancing insight and medication adherence, (2) assists and guides the participants' understanding about the benefits of tadabbur Qur'an related to enhancing insight, (3) assists and guides the participants' understanding about the importance of reciting the Holy Qur'an, (3) educates the participants about the importance of reciting the Holy Qur'an, (4) educates the participants about the techniques of doing tadabbur Qur'an related to enhancing insight and medication adherence, (5) teachs the participants how to practice tadabbur Qur'an.

Nurse's role as a counselor: (1) helps the participants define the treatment goal related to reciting the Holy Qur'an, (2) encourages the participants to discuss their experiences regarding reciting the Holy Qur'an related to enhancing insight and medication adherence , (3) guides the participants in the development skills and strategies in reciting the Holy Qur'an,(4) encourages the participants to recite the Holy Qur'an related to enhancing insight and medication adherence, (5) helps the participants promote their self-care ability in reciting the Holy Qur'an in their daily life.

Nurse's roles as a collaborator: (1) collaborates with family caregiver to monitor the participants' religious practices related to reciting the Holy Qur'an at home, (2) collaborates with community mental health nurses in monitoring religious practices' of the participants related to reciting the Holy Qur'an.

Week 3, session 5: Salat and reciting of the Qur'an related to enhancing insight. The objectives of session 5 were : (1) to practice mindfulness in performing salat, (2) to practice skills in tadabbur Qur'an related to enhancing insight with the selected surah (verse): the *surah Al-Isra:82, and* (3) to understand and translate the meaning of the *surah Al-Isra:82*.

Nurse's role as a educator: (1) assess and discuss with the participants regarding *surah Al-Isra: 82*, (2) assists and guides the participants' understanding about the meaning of the *surah Al-Isra: 82*, (3) Assists and guides the participants' understanding about the importance of reciting the *surah Al-Isra*: *82*, (4) educates the participants about the benefits of reciting the *surah Al-Isra*: *82* related to enhancing insight and medication adherence, (5) teachs the participants how to practice reciting the *surah Al-Isra*: *82*.

Nurse's role as a counselor: (1) helps the participants define the treatment goal related to practicing the surah *Al-Isra*: *82*, (2) encourages the participants to discuss their experiences regarding practicing mindfulness in salat and reciting the *surah Al-Isra*: *82*, (3) guides the participants in the development skills of reciting the *surah Al-Isra*: *82*, (5) encourages the participants to reciting the *surah Al-Isra*: *82* in their daily life, (6) helps the participants promote their self-care ability in practicing the *surah Al-Isra*: *82.*

Nurse's roles as a collaborator: (1) collaborates with family caregiver to monitor the participants' religious practices related to reciting the *surah Al-Isra*: *82* at home, (2) collaborates with community mental health nurses in monitoring religious practices of the participants related to reciting the *surah Al-Isra*: *82*.

Week 3, session 6: Salat and reciting the Qur'an related to enhancing insight. The objectives of session 6 were : (1) to practice mindfulness in performing salat, (2) to practice skills in tadabbur Qur'an related to enhancing insight with the selected surah (verse): *surah Yunus:57* and (3) to understand and translate the meaning of *surah Yunus:57.*

Nurse's role as a educator: (1) assess and discuss with the participants regarding the *surah Yunus:57*, (2) assists and guides the participants' understanding about the meaning of the *surah Yunus:57*, (3) assists and guides the participants' understanding about the importance of reciting the *surah Yunus:57*, (4) educates the participants about the benefits of reciting the *surah Yunus:57* related to enhancing insight and medication adherence, (5) teachs the participants how to practice reciting the *surah Yunus:57*.

Nurse's role as a counselor: (1) helps the participants define the treatment goal related to practicing *the surah Yunus:57*, (2) encourages the participants to discuss their experiences regarding practicing mindfulness in salat and reciting the *surah Yunus:57*, (3) guides the participants in the development skills of reciting the *surah Yunus:57*, (5) encourages the participants to reciting the *surah Yunus:57* in their daily life, (6) helps the participants promote their self-care ability in practicing the *surah Yunus*: *57.*

Nurse's roles as a collaborator: (1) collaborates with family caregiver to monitor the participants' religious practices related to reciting the *surah Yunus*: *57*at home, (2) collaborates with community mental health nurses in monitoring religious practices of the participants related to reciting the *surah Yunus*: *57*.

Week 4, session 7 and 8: Salat and reciting of the Qur'an related to enhancing insight. The objective of session 7 was: to let the participant practice salat and reciting the selected Quranic verses related to enhancing insight at home.

Nurse's role as a educator: (1) teachs the participants how to record their religious activities at home in available record form, (2) teachs the participants how to record their medication in available record form.

Nurse's role as a counselor: (1) preparing and maintaning the participants records, (2) encourages the participants to contact nurse if they get problems in doing self-practice at home.

Nurse's roles as a collaborator: (1) collaborates with family caregiver to monitor the participants' religious practices in performing mindfulness (khusu') in salat and reciting the Holy Qur'an related to enhancing insight and medication adherence at home, (2) collaborates with family caregiver to monitor the participants'medication and side effects of medication at home.

Termination phase, week 5, session 9: Terminating and evaluating the intervention program. The objectives of session 9 were: (1) to terminate the program, (2) to evaluate the program and (3) to prepare the participant to continue the program without the researcher.

Nurse's role as a educator: (1) assess the participants' knowledge and ability in practicing mindfulness (khusu) in salat and recitation of the Holy Qur'an, (2) helps the participants make decision to promote their skills in doing mindfulness in salat and recitation of the Holy Qur'an with the selected verses, (3) assess the participants' barriers regarding religious practices related to enhancing insight and medication adherence, (4) Helps the participants overcome their barriers regarding religious practices.

Nurse's role as a counselor: (1) evaluates the participants' knowledge and ability in practicing mindfulness (khusu) in salat and recitation of the Holy Qur'an, (2) evaluates the effectiveness of the intervention program, (3) discuss with the participants feelings after completing the intervention program, (4) discuss the participants's skills in doing mindfulness in salat and recitation of the Holy Qur'an with the selected verses, (5) assess the participants' barriers to achieve the treatment goal and discuss the strategies to overcome the problems, (6) encourages the participants to maintain the religious practices after terminating the intervention program.

Nurse's roles as a collaborator: (1) collaborates with family caregiver to encourage and monitor the participants' medication and religious practices in performing mindfulness (khusu') in salat and reciting the Holy Qur'an related to enhancing insight and medication adherence at home, (2) collaborates with community mental health nurses in maintaning the sustainability of the intervention program.

Moreover, the follow-up process of the intervention was explained as follows: The first week after the intervention, the researcher evaluated the

implementation of the program by visiting the participants in their homes. The researcher asked the participants to demonstrate their abilities in enhancing insight by using Islamic principles, particularly mindfulness in performing salat and reciting of the Qur'an with the selected Quranic verses related to enhancing insight. The researcher also reinforced any success of the participants in performing the task. The second week after completing the intervention program, the researcher met the participants in their homes. The researcher and the research assistants conducted the first post-test with the participants. The first month after completing the first post-test, the researcher met the participants again in their homes.The researcher and the research assistants followed-up the participants by conducting the second post-test. The details of the intervention program can be seen in appendix G.

Instruments for Data Collection

The instruments for data collection were: 1) Demographic Data Questionnaire (DDQ), 2) The Brief Psychiatric Rating Scale (BPRS), 3) The Beck Cognitive Insight Scale (BCIS), 4) The Birchwood Insight Scale (BIS), and 5) The Medication Adherence Rating Scale (MARS).

The Demographic Data Questionnaire (DDQ). The Demographic Data Questionnaire consisted of age, gender, marital status, educational background, occupation, number of hospitalizations, duration of illness, type of medication, and side effects of medication.

The Brief Psychiatric Rating Scale (BPRS). The Brief Psychiatric Rating Scale (BPRS) was originally developed by Overall and Gorham (1962) and was modified by Leucht, Kane, Kissling, Hamann, Etschel and Engel (2005). The

BPRS is a clinician-rated tool designed to assess the change in severity of psychopathology. The scale includes 18 items focusing on symptoms that are common in patients with psychotic disorders, for instance hallucinations, delusions, and disorganization, as well as mood disorders. The BPRS is a 7-point Likert-like type measure, with scores 0 = not assessed, 1 = not present, 2 = very mild, 3 = mild, 4 = moderate, 5 = moderately severe, 6 = severe, and 7 = extremely severe. The total score is the sum score from the 18 items, which equal 126. The categories of the BPRS include extremely ill (86-126), severely ill (67-85), markedly ill (53-66), moderately ill (41-65) and mildly ill (less than 31). A higher score implies a higher level of symptoms (Leucht, Kane, Kissling, Hamann, Etschel., & Engel, 2005). Inter-rater reliabilities of the BPRS between .87 and .97. In this study, the researcher recruited the participants who had the BPRS scores less than 31 (mildly ill).

The Birchwood Insight Scale (BIS). The Birchwood Insight Scale (BIS) was developed by Birchwood, Smith, Drury, Healy, Macmillan, and Slade (1994). The BIS scale is an eight-item self report insight measure. This scale is used to measure clinical insight for schizophrenia. The BIS is based on three dimensions consisting of awareness of illness (2 items), awareness of symptoms (2 items) and awareness of the need for the treatment (4 items). Each item is rated on agree, disagree, and unsure. The total score has a range from 0 to12, with a score of 9 or more indicating good insight. The scale is quick and easy to administer to persons with schizophrenia. The BIS showed good internal consistency (Cronbach's $\alpha = .75$) and test-retest reliability correlation coeficient was .90.

The Beck Cognitive Insight Scale (BCIS). The Beck Cognitive Insight **The Beck Cognitive Insight Scale (BCIS).** The Beck Cognitive Insight Scale

(BCIS) was developed by Beck, Baruch, Balter, Steer and Warman (2004). The purpose of the scale is to evaluate patients' reflectiveness and their overconfidence in their intepretations of their experiences. The scale comprises of a 15-item self -report questionnaire which is divided into two sections: a 9-item self-reflectiveness subscale and a 6-item self-certainty subscale. The first subscale comprised 9 items measuring objectivity reflectiveness and openess to feedback.

The second subscale consisted of 6 items measuring decision- making and resistance to feedback.The BCIS is a 4-point Likert scale that ranges from 0 = do not agree at all, 1 = agree slightly, 2 = agree a lot, and 3 = agree completely. A score of 10 points or more indicates good cognitive insight. The coefficient α for the self-reflectiveness scale was .68 and for self-certainty was .60 for the original sample.

The Medication Adherence Rating Scale (MARS). The Medication Adherence Rating Scale (MARS) was developed by Thompson, Kulkarni and Sergejew (2000). The aim of this scale is to measure the complexity of adherence and factors influencing adherence in schizophrenia patients. The scale consists of a 10 item self-report questionnaire that requires a yes or no answer. The items Q1, Q2, Q3, Q4, Q5, Q6, Q9, and Q10 are scored no = one and yes = zero.The remaining items (Q7 and Q8) are scored no = zero and yes = one. The scale score is obtained by summing the items values. The score ranges from 0 (low probability of adherence) to 10 (high probability of adherence). The reliability of MARS was .75. The MARS can be used not only in a clinical setting but also in many research study settings.

Translation of the Instruments and Intervention Guideline

The Demographic Data Questionnaire (DDQ), The Brief Psychiatric Rating Scale (BPRS), The Beck Cognitive Insight Scale (BCIS), The Birchwood

Insight Scale (BIS), The Medication Adherence Rating Scale (MARS), and the Islamic-based insight enhancement nursing program on medication adherence in persons with schizophrenia were translated by the back translation method. The World Health Organization (2013) states that back translation should be on conceptual and cultural equivalence and not lingustic equivalence. The first, bilingual translator translated the questionnaires of the English version into an Indonesian version. The second, bilingual translator translated the Indonesian version back into the English version. The two bilingual translators work independently for the translation into the target languages. The third, the original and the English back translated questionnaires were evaluated by an English expert for discrepancies. The researcher revised the Indonesian version based on the experts' suggestions.

Validity and Reliability of the Instruments

Validity of the instruments. Five experts evaluated the validity of all the instruments. One expert was a psychiatrist who is working at Aceh Psychiatric Hospital, another was a senior psychiatric nurse who is working at Aceh Psychiatric Hospital. Two experts were in Islamic counseling and psychotherapy who are working at the Faculty of Dakwah, National Islamic Univeristy, Banda Aceh and the last expert was in Islamic therapy in nursing care who is working at the Health Polytechnique Semarang, West Java, Indonesia. The experts validated and evaluated each item for their degree of relevance with their related construct. The researcher revised the instruments based on the suggestions of the experts.

Reliability of the instruments. The reliability of the questionnaires was tested with 20 patients with schizophrenia in the community setting. The

Cronbach's alpha coefficient for The Beck Cognitive Insight Scale was .86. The Cronbach's alpha coefficient for The Birchwood Insight Scale was .85, and the Kuder Richardson (KR 21) for The Medication Adherence Rating Scale was .82. In addition, the reliability of the instruments also was tested with 100 patients with schizophrenia as the actual samples for this study. The Cronbach's alpha coefficient for The Beck Cognitive Insight Scale and The Bircwood Insight Scale were .85 and .81, respectively. The Kuder Richardson (KR 21) for The Medication Adherence Rating Scale was .87.

Pilot Study

The pilot study was conducted to test the intervention program in the Community Health Center in Aceh Besar District, Aceh Province, Indonesia with 10 schizophrenic patients who had the same characteristics as the actual sample. Both the experimental group and the control group received the same routine care. The experimental group also received an Islamic-based insight enhancement nursing program on medication adherence, which was developed by the researcher based on Islamic principles (in particular salat) and recitation of the Holy Qur'an, the concept of insight and the concept of medication adherence.

Ethical Considerations

Ethical considerations and human rights protection were obtained from the Institutional Review Board (IRB), the Faculty of Nursing, Prince of Songkla

University, Thailand. The reseacher asked permission from the head of Aceh Besar District, Aceh Province, Indonesia and the head of the community health center of Aceh Besar District before recruiting the participants. The researcher explained the purposes of the study, the benefits and the expectations of the participants' participation and any potential harm in this study such as the participants may feel anxious, fearful, have hallucinations, delusions, disorganized thoughts or get depressed while completing the questionnaires. The researcher solved any problems by asking the participants to be calm, to stop completing the questionnaire for a while and by waiting until the participants felt better, and if the problem got any worse, the researcher would discontinue the activities and transfer the participants to the experts.

When the participants agreed to participate in this study, the researcher gave them a consent form and explained how to complete the questionnaires.The participants were informed about their right to withdraw at any time from this study for any reason without any fear or negative consequences to them. The researcher maintained confidentiality and anonymity of the participants by using a code and all the information was used only for this study (appendix A).

Routine Care

The participants in both the experimental and the control group received the same routine care from a community mental health nurse.The routine care for persons with schizophrenia included providing psychoeducation about their illness and medication to the patients and their family, monitoring the signs and symptoms of the illness and the side effects of medication.

Data Collection Procedures

The data collection procedure was divided into two phases: preparation phase and intervention phase. The preparation phase consisted of obtaining permission from the head of Aceh Besar District, Aceh Province and the head of the community health center in Aceh Besar District, Aceh Province, preparing materials and instruments, recruiting research assistants, and recruiting the participants. The intervention phase followed the experimental protocol.

Preparation Phase

1. After obtaining permission from the head of Aceh Besar District and the head of the community health center in Aceh Besar District, the researcher held a technical meeting with the research assistants. In this study, the researcher used 2 research assistants with the same qualification of education. Both of the research assistants earn a Bachelor of Nursing and work as community mental health nurses. The researcher explained about the purpose of the study, the benefits of the study, guidelines of the program, the participant's recruitment, and data collection methods, and how to record the questionnaires.

2. The researcher met the research assistants before data collection. The researcher explained to the research assistants how to deliver the Demographic

Data Questionnaire (DDQ), The Brief Psychiatric Rating Scale (BPRS), The Birchwood Insight Scale (BIS), The Beck Cognitive Insight Scale (BCIS), and The Medication Adherence Rating Scale (MARS).

3. The researcher explained the steps of the intervention program and the program guidelines to the research assistants. The intervention program was run by using discussion, giving information, sharing experiences and providing demonstrations. It was also explained to the research assistants how to prevent any unpredictable conditions of schizophrenic patients such as hallucinations, delusions or aggressive behavior that may occur while attending the program.

4. The researcher conducted a pilot study with 10 participants who had the same characteristics as the actual sample.

Intervention Phase

Figure 2 shows the data collection procedure in the experimental group in the intervention phase. The research assistants delivered the Demographic Data Questionnaire, (DDQ), The Brief Psychiatric Rating Scale (BPRS), The Beck Cognitive Insight Scale (BCIS), The Birchwood Insight Scale (BIS) and The Medication Adherence Rating Scale (MARS). For the experimental group, the researcher performed an intervention based on the Islamic principles (in particular salat), recitation of the Holy Qur'an, introduction of insight and medication adherence. The intervention was divided into three phases: introduction phase, working phase and termination phase. The intervention was developed by the researcher to enhance medication adherence in persons with schizophrenia through increasing insight.

The duration of the program was 5 weeks and comprised of 9-sessions of group training which included : (1) establishing a relationship between the researcher and the participant, (2) introduction of insight and medication adherence and the importance of religious practices related to enhancing insight, and (3) practicing mindfulness in performing salat and reciting of the Qur'an related to enhancing insight. The program was held twice weekly. Each session took 60 minutes. The program was evaluated at 2 weeks and 1 month follow-up. The researcher measured insight and medication adherence of schizophrenic patients at 2 weeks after conducting the Islamic-based insight enhancement nursing progra. Then, the researcher re-assessed insight and medication adherence of schizophrenic patients at 1 month follow-up after the first post-test. In addition, for the control group, all data collection methods were similar to the experimental group.

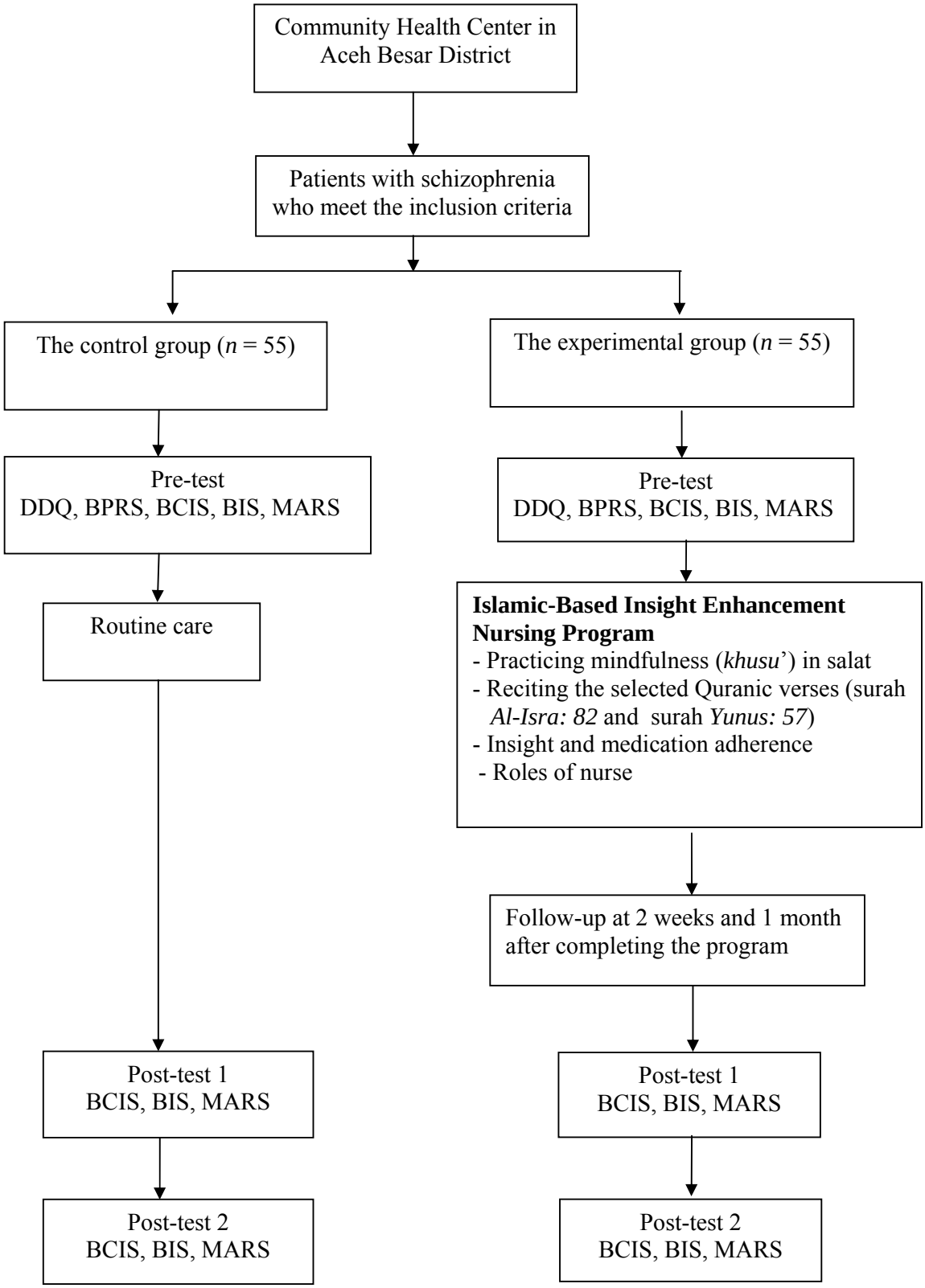


*Figure 2.*The implementation phase of data collection procedure

Data Analysis

Data Screening and Cleaning

Data were screened for accuracy and completeness. The researcher used a code for the following demographic data, gender, marital status, educational level, occupation, number of hospitalizations, duration of illness, type of medication and side effects of medication, before entering the data into the statistical program. Outliers and missing data were treated depending upon the nature of the value.

Preliminary Data Analysis

The preliminary data analysis was used to test the assumptions of the dependent variables for normality and homogeneity.The Kolmogorov-Smirnov test and the Saphiro-Wilk test were also used to determine normality in that no significant finding indicates normal distribution ($p > .05$). For this study, it was shown that the Kolmogorov-Smirnov test and the Saphiro-Wilk test were $p < .05$, which indicated non normal distribution, therefore, non-parametric statistics were used to examine the results.

Descriptive Analysis

Descriptive statistics were used to analyze the patient's characteristics such as age, gender, educational level, marital status, occupation, number of hospitalizations, duration of illness, type of medication and side effects of medication by using frequency, percentage, mean and standard deviation.

Inferential Analysis

Mann-Whitney U test was used to test the different scores of medication adherence in schizophrenia patients at 2 weeks and 1 month follow-up between the experimental group and the control group.Wilcoxon signed-rank test was employed to examine the different scores of medication adherence in schizophrenia patients at 2 weeks and 1 month follow-up within the experimental group. In addition, repeated measures Friedman test was used to examine the different scores of medication adherence in schizophrenia patients at baseline, 2 weeks and 1 month follow-up between the experimental group and the control group.

Hypothesis 1. Mann-Whitney U test was used to compare the differences in the mean scores of medication adherence between the experimental group and the control group at 2 weeks and 1 month follow-up. Repeated measures Friedman test was used to compare the differences in the mean scores of medication adherence in persons with schizophrenia between the experimental group and the control group at baseline, 2 weeks and 1 month follow-up.

Hypothesis 2. Wilcoxon signed-rank test was used to analyze the differences in the mean scores of medication adherence in persons with schizophrenia at 2 weeks and 1 month follow-up within the experimental group.

CHAPTER 4

RESULTS AND DISCUSSION

This chapter consists of the results of the study and discussion. The aims of the study were (1) to compare medication adherence scores in persons with schizophrenia who receive Islamic-based insight enhancement nursing program (experimental group) and those who receive routine care (control group) at 2 weeks and 1 month follow- up and (2) to compare medication adherence scores in persons with schizophrenia who receive Islamic-based insight enhancement nursing program at 2 weeks and 1 month follow–up within the experimental group.The results of the study are divided into 9 sections as follows:

Section 1: Demographic characteristics of the participants.

Section 2: The comparison of mean rank differences of medication adherence at 2 weeks and 1 month follow-up between the experimental group and the control group.

Section 3: Mean scores differences of medication adherence at baseline, 2 weeks and 1 month follow-up among the experimental group and the control group.

Section 4: The comparison of mean rank differences of medication adherence at baseline, 2 weeks and 1 month follow-up between the experimental group and the control group.

Section 5: The comparison of mean rank differences of medication adherence at 2 weeks and 1 month follow-up within the experimental group.

Section 6: The comparison of mean rank differences of cognitive insight at 2 weeks and 1 month follow-up between the experimental group and the control group.

Section 7: The comparison of mean rank differences of cognitive insight at 2 weeks and 1 month follow-up within the experimental group.

Section 8: The comparison of mean rank differences of clinical insight at 2 weeks and 1 month follow-up between the experimental group and the control group.

Section 9: The comparison of mean rank differences of clinical insight at 2 weeks and 1 month follow-up within the experimental group.

Results

Section 1: Demographic Characteristics of the Participants

In this study, one-hundred and ten participants were random assigned equally to the experimental group (n = 55) and the control group (n = 55).Ten participants, including five participants in the experimental group and five participants in the control group dropped out. Five participants in the experimental group dropped out after attending the first session of the intervention program due to the inconvenience of the time. Another five participants in the control group dropped out due to their workload for their family.Therefore, only 100 participants were analyzed in this study. Their demographic data is summarized in table 1.

In the experimental group, the average age was 38.80 (*SD* = 10.26) ranging from 20 to 60 years old. The majority of the participants were male (70.0%). More than half of the participants were single (62.0%). Most of the participants had not attended school (32.0%). More than half of the participants were unemployed (56.0%). The various jobs of the participants were farmer (36.0%), government employee (4.0%), private worker (2.0%) and other (2.0%). The average number of hospitalizations was 2.18 times (*SD* = 3.37) with the number of hospitalizations ranging from 1 to 10 times. Most of the participants have been diagnosed with schizophrenia on an average of 5.76 years (*SD* = 3.37) with the duration of illness ranging from 2 to 15 years. Medications that the participants used were CPZ (78.0%), haloperidol (94.0%), and risperidone (54.0%). The side effects of medication were feel sleepy, dry lips, headache, and dizziness (14.0%, 14.0%, 14.0%, and 14.0%), respectively.

On the other hand, for the control group, the average age was 35.28 (*SD* = 10.02) ranging from 21 to 60 years old. The majority of the participants were male (72.0%). More than half of the participants were single (64.0%). The majority of the participants had an educational background of elementary school level (36.0%). More than half of the participants were farmers (56.0%). The various jobs of the participants were private worker (2.0%), unemployed (28.0%), and other (14.0%). The average number of hospitalizations was 1.18 times (*SD* = 1.62) with the number of hospitalizations ranging from 1 to 10 times. Most of the participants have been diagnosed with schizophrenia on an average of 5.32 years (*SD* = 3.70) with the duration of illness ranging from 2 to 15 years. Medications that the participants used were CPZ (76.0%), haloperidol (90.0%), and risperidone (48.0%). The side effects of

medication were feel sleepy, dry lips, headache, and dizziness (10.0%, 12.0%, 14.0%, and 14.0%), respectively. The Chi-Square test was used for examining the categorical variables of the demographic characteristics and the t-test to examine age, number of hospitalizations and duration of a patient's illness. To conclude, there were no statistical differences in the demographic characteristics of both the experimental group and the control group ($p > .05$). These results are shown in table 1.

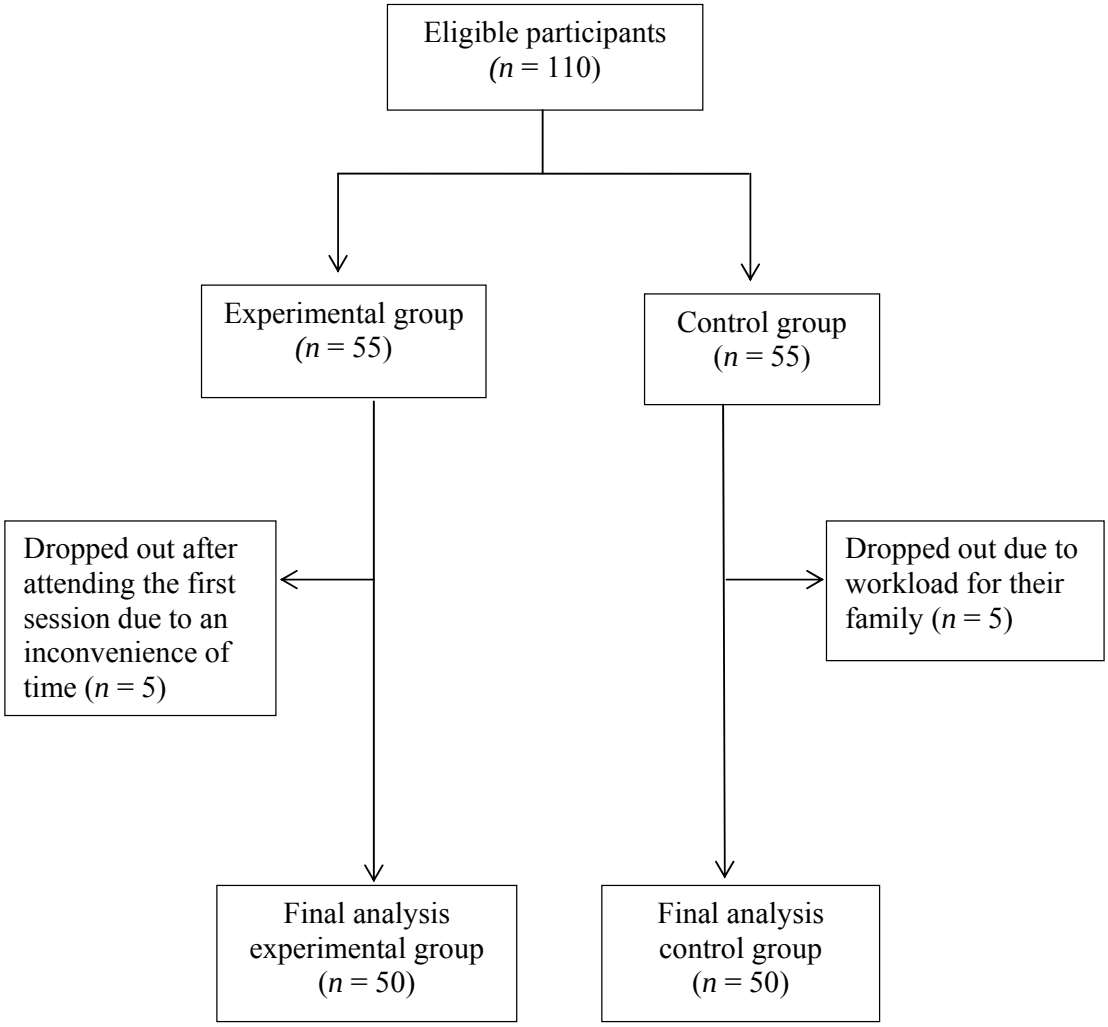


Figure 3. Flow diagram of the process through randomization phases of the experimental group and the control group

Tabel 1

Frequency, Percentage, Mean, and Standard Deviation of the Demographic Characteristics of the Participants in the Experimental Group and the Control Group

Variables	Control group *n* = 50		Experimental group *n* = 50		Statistical value	*p*
	n	(%)	*n*	(%)		
Age [years; *M* (*SD*)]	35.28 (10.02)		38.80 (10.26)		-1.57[b]	.12
Gender						
Male	36 (72.0)		35 (70.0)		.19[a]	.89
Female	14 (28.0)		15 (30.0)			
Marital status						
Single	32 (64.0)		31(62.0)		6.70[a]	.34
Married	11 (22.0)		12 (24.0)			
Widow	5 (10.0)		7 (14.0)			
Widower	2 (4.0)		0 (0)			
Educational background						
None	8 (16.0)		16 (32.0)		19.42[a]	.24
Elementary school	18 (36.0)		16 (32.0)			
Junior high school	14 (28.0)		7 (14.0)			
Senior high school	9 (18.0)		7 (14.0)			
University or Diploma	1(2.0)		4 (8.0)			
Occupation						
Fisherman	0 (0)		0 (0)		12.79[a]	.38
Businessman	0 (0)		0 (0)			
Farmer	28 (56)		18 (36)			
Government employee	0 (0)		2 (4)			
Private worker	1(2)		1(2.0)			
Retired	0 (0)		0 (0)			
Unemployed	14 (28)		28 (56.0)			
Other	7 (14)		1 (2.0)			
Number of hospitalizations [times; *M* (*SD*)]	1.18 (1.62)		2.18 (3.37)		-1.85[b]	.07
Duration of illness [years; *M* (*SD*)]	5.32 (3.70)		5.76 (3.37)		-.67[b]	.50

[a] = Chi-square test, [b] = *t*-test

Tabel 1 (continued)

Variables	Control group *n* = 50		Experimental group *n* = 50		Statistical value	*p*
	n	(%)	*n*	(%)		
Medication						
CPZ						
Yes	38	(76.0)	39	(78.0)	.08[a]	.77
No	12	(24.0)	11	(22.0)		
Haloperidol						
Yes	45	(90.0)	47	(94.0)	.35[a]	.55
No	5	(10.0)	3	(6.0)		
Risperidone						
Yes	24	(48.0)	27	(54.0)	.29[a]	.58
No	26	(52.0)	23	(46.0)		
Effects of medication						
Feel sleepy						
Yes	5	(10.0)	7	(14.0)	3.11[a]	.07
No	45	(90.0)	43	(86.0)		
Dry lips						
Yes	6	(12.0)	7	(14.0)	1.22[a]	.26
No	44	(88.0)	43	(86.0)		
Headache						
Yes	7	(14.0)	7	(14.0)	1.80[a]	.18
No	43	(86.0)	43	(86.0)		
Dizziness						
Yes	7	(14.0)	7	(14.0)	2.13[a]	.14
No	43	(86.0)	43	(86.0)		

[a] = Chi-square test, [b] = *t*-test

Section 2: The Comparison of Mean Rank Differences of Medication Adherence at 2 Weeks and 1 Month Follow-up between the Experimental Group and the Control Group

Mann-Whitney U test was used to evaluate hypothesis 1 that the mean rank differences of medication adherence at 2 weeks and 1 month follow-up in the experimental group are higher than those in the control group.The results showed that mean rank differences of medication adherence at 2 weeks ($U = 934.0$, $p < .05$) and 1 month follow-up ($U = 238.5$, $p < .01$) were statistically higher in the experimental group compared with the control group. These findings are shown in table 2.

Table 2

The Comparison of Mean Rank Differences of Medication Adherence at 2 Weeks and 1 Month Follow-up Between the Experimental Group and the Control Group

Medication adherence	Experimental group		Control group		Mann-Whitney U test
	n = 50		*n* = 50		
	MR	SR	MR	SR	
2 Weeks	56.82	2841.0	44.18	2209.0	934.0*
1 Month	70.73	3536.5	30.27	1513.5	238.5**

*$p < .05$, **$p <. 01$, MR: Mean Rank, SR: Sum of Rank

Section 3: The Mean Scores Differences of Medication Adherence at Baseline, 2 Weeks, and 1 Month Follow-up among the Experimental Group and the Control Group

The mean scores differences of medication adherence at each time point are presented in table 3. The findings revealed that the mean scores of medication adherence at 1 month follow-up ($M = 7.64$, $SD = 2.38$) was higher than at

2 weeks (*M* = 2.72, *SD* = 1.12) and baseline (*M* = 1.54, *SD* = .50). On the other hand, in the control group, the mean scores of medication adherence at 1 month follow-up (*M* = 2.98, *SD* = 2.28) was slightly increased compared with at 2 weeks (*M* = 2.60, *SD* = 2.32) and baseline (*M* = 1.22, *SD* = .76). These findings are shown in table 3.

Table 3

The Mean Scores Differences of Medication Adherence at baseline, 2 Weeks and 1 Month Follow-up among the Experimental Group and the Control Group

Variables	Experimental group (*n* = 50)		Control group (*n* = 50)	
	M	*SD*	*M*	*SD*
Medication adherene				
Baseline	1.54	.50	1.22	.76
2 Weeks	2.72	1.12	2.60	2.32
1 Month	7.64	2.38	2.98	2.28

Figure 4 shows the mean scores differences of medication adherence at each time point among the experimental group and the control group. There were differences in the mean scores of medication adherence at baseline, 2 weeks and 1 month after receiving the intervention in the experimental group.The mean scores of medication adherence at 1 month follow-up (*M* = 7.64, *SD* = 2.38) was higher than at 2 weeks (*M* = 2.72, *SD* = 1.12) and baseline (*M* = 1.54, *SD* = .50). On the other hand, in the control group, the mean scores of medication adherence at 1 month follow-up (*M* = 2.98, *SD* = 2.28) was slightly increased compared with at 2 weeks (*M* = 2.60, *SD* = 2.32) and baseline (*M* = 1.22, *SD* = .76).

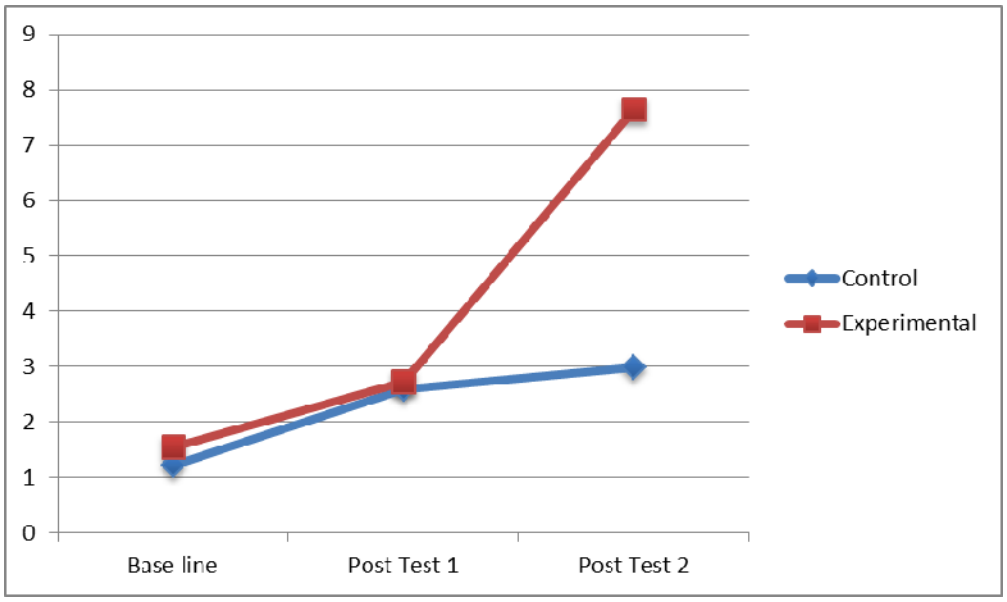


Figure 4.The mean scores differences of medication adherence at baseline, 2 weeks and 1 month follow-up among the experimental group and the control group

Section 4: The Comparison of Mean Rank Differences of Medication Adherence at Baseline, 2 Weeks and 1 Month Follow-up between the Experimental Group and the Control Group

Repeated measures Friedman test was used to evaluate the mean rank differences of medication adherence at baseline, 2 weeks and at 1 month follow-up between the experimental group and the control group.The finding showed a significant difference in the experimental group ($X^2 = 66.24$, $p < .01$), as presented in table 4.

Table 4

The Comparison of Mean Rank Differences of Medication Adherence at Baseline, 2 Weeks and 1 Month Follow-up between the Experimental Group and the Control Group

Group	*df*	X^2	*p*
Experimental	2	66.24	.00
Control	2	.87	.64

**$p < .01$

Section 5: The Comparison of Mean Rank Differences of Medication Adherence at 2 Weeks and 1 Month Follow-up within the Experimental Group

Wilcoxon signed rank test was conducted to evaluate the hypothesis that the mean rank differences of medication adherence at 2 weeks and 1 month follow-up are different within the experimental group. The results showed that there were significant differences in mean rank of medication adherence at 2 weeks than before receiving the intervention program ($Z = -5.38$, $p < .01$).There were significant differences in mean rank of medication adherence at 1 month follow-up than before receiving the intervention program ($Z = -6.78$, $p < .01$), and at 1 month follow-up also were significant differences compared with at 2 weeks after intervention program ($Z = -3.54$, $p < .01$) within the experimental group. The findings as presented in table 5.

Table 5

The Comparison of Mean Rank Differences of Medication Adherence at 2 Weeks and 1 Month Follow-up within the Experimental Group

Medication adherence	Experimental group		Wilcoxon signed rank test
	n = 50		
	MR	SR	
Before -2 Weeks	15.0	435.0	-5.38**
Before -1 Month	23.50	1081.0	-6.78**
2 Weeks -1 Month	12.0	240.0	-3.54**

**$p < .01$, MR: Mean Rank, SR: Sum of Rank

Section 6: The Comparison of Mean Rank Differences of Cognitive Insight at 2 Weeks and 1 Month Follow-up between the Experimental Group and the Control Group

Mann-Whitney U test was used to evaluate the mean rank differences of cognitive insight at 2 weeks and at 1 month follow-up between the experimental group and the control group.The results showed that there were significant differences in the mean rank of cognitive insight between the experimental group and in the control group at 2 weeks ($U = 393.0$, $p < .01$) and at 1 month follow-up ($U = 143.0$, $p < .01$). These findings are shown in table 6.

Table 6

The Comparison of Mean Rank Differences of Cognitive Insight at 2 Weeks and 1 Month Follow-up Between the Experimental Group and the Control Group

Cognitive insight	Experimental group		Control group		Mann-Whitney U test
	n = 50		*n* = 50		
	MR	SR	MR	SR	
2 Weeks	67.64	3382.0	33.36	1668.0	393.0**
1 Month	72.64	3632.0	28.36	1418.0	143.0**

**$p < .01$, MR: Mean Rank, SR: Sum of Rank

Section 7: The Comparison of Mean Rank Differences of Cognitive Insight at 2 Weeks and 1 Month Follow-up within the Experimental Group

Wilcoxon signed rank test was conducted to evaluate the mean rank differences of cognitive insight at 2 weeks and at 1 month follow-up within the experimental group. The results showed that there were significant differences in mean rank of cognitive insight at 2 weeks than before receiving the intervention program ($Z = -5.83$, $p < .01$).There were significant differences in mean rank of cognitive insight at 1 month follow-up than before receiving the intervention program ($Z = -6.55$, $p < .01$), and at 1 month follow-up also were significant differences compared with at 2 weeks after intervention program ($Z = -2.71$, $p < .01$) within the experimental group. These findings as presented in table 7.

Table 7

The Comparison of Mean Rank Differences of Cognitive Insight at 2 Weeks and 1 Month Follow-up within the Experimental Group

Cognitive insight	Experimental group		Wilcoxon signed rank test
	n = 50		
	MR	SR	
Before -2 Weeks	17.50	595.0	-5.83**
Before -1 Month	22.0	946.0	-6.55**
2 Weeks -1 Month	6.0	60.0	-2.71**

**$p < .01$, MR: Mean Rank, SR: Sum of Rank

Section 8: The Comparison of Mean Rank Differences of Clinical Insight at 2 Weeks and 1 Month Follow-up between the Experimental Group and the Control Group

Mann-Whitney U test was used to evaluate the mean rank differences of clinical insight at 2 weeks and at 1 month follow-up between the experimental group and the control group.The results showed that there were significant differences in the mean rank of clinical insight between the experimental group and the control group at 2 weeks ($U = 952.0$, $p < .05$) and the 1 month follow-up ($U = 165.0$, $p < .01$) These findings are shown in table 8.

Table 8

The Comparison of Mean Rank Differences of Clinical Insight at 2 Weeks and 1 Month Follow-up Between the Experimental Group and the Control Group

Clinical insight	Experimental group		Control group		Mann-Whitney U test
	n = 50		*n* = 50		
	MR	SR	MR	SR	
2 Weeks	56.46	2823.0	44.54	2227.0	952.0*
1 Month	72.20	3610.0	28.80	1440.0	165.0**

*$p < .05$, **$p <. 01$, MR: Mean Rank, SR: Sum of Rank

Section 9: The Comparison of Mean Rank Differences of Clinical Insight at 2 Weeks and 1 Month Follow-up within the Experimental Group

Wilcoxon signed rank test was conducted to evaluate the mean rank differences of clinical insight at 2 weeks and 1 month follow-up within the experimental group. The results showed that there were significant differences in mean rank of clinical insight at 2 weeks than before receiving the intervention program ($Z = -4.58$, $p < .01$).There were significant differences in mean rank of clinical insight at 1 month follow-up than before receiving the intervention program ($Z = -6.63$, $p < .01$), and at 1 month follow-up also were significant differences compared with at 2 weeks after intervention program ($Z = -4.79$, $p < .01$) within the experimental group. These findings as presented in table 9.

Table 9

The Comparison of Mean Rank Differences of Clinical Insight at 2 Weeks and 1 Month Follow-up within the Experimental Group

Clinical insight	Experimental group		Wilcoxon signed rank test
	n = 50		
	MR	SR	
Before -2 Weeks	11.0	231.0	-4.58**
Before -1 Month	22.50	990.0	-6.63**
2 Weeks -1 Month	12.0	276.0	-4.79**

**p<.01, MR: Mean Rank, SR: Sum of Rank

Discussion

The major findings of the study are discussed in relation to medication adherence of persons with schizophrenia after performing the Islamic-based insight enhancement nursing program .The discussion also compares the findings with the previous studies.

Hypothesis 1: The mean scores of medication adherence in persons with schizophrenia who receive the Islamic-based insight enhancement nursing program are higher than those who receive routine care at 2 weeks and 1 month follow- up.

The findings showed that there were significant differences in mean rank of medication adherence at 2 weeks ($p < .05$) and at 1 month follow-up ($p < .01$) between the experimental group and the control group, as presented in table 2. In this study, both participants in the experimental group and the control group received the same routine care from the community mental health nurses. The services included providing psychoeducation about illness and medication to the

patients and their family, monitoring the signs and symptoms of the illness and the side effects of medication. Besides receiving the routine care, the experimental group also received an Islamic-based insight enhancement nursing program to enhance medication adherence.

In this study, the Islamic-based insight enhancement nursing program used religious practices consisting of salat (prayer) and the Holy Qur'an with the selected surah (verses), namely surah *Al Isra* 17:82 and surah *Yunus 10*: 57, the interpersonal relationship between the nurse and participant, and nurse's roles to enhance the insight and medication adherence of schizophrenic Muslim persons. The interpersonal relationship process begin with build trust, rapport, establish a therapeutic environment.Caring and empathy also were incorporated in the intervention program to develop positive interpersonal relationship and therapeutic process between the nurse and client. Therapeutic communication techniques such as listening, broad openings, clarification, reflection, informing, focusing, sharing perceptions, and suggesting also were used in each activity of the intervention program. These techniques are useful to identify the client's needs, feelings, problems, and ideas related to religious practices to enhancing medication adherence. Nurse's roles include communicator, educator, counselor, and collaborator had been performed in each session of the intervention program to enhance the insight and medication adherence of schizophrenic Muslim persons. Insight is a very crucial aspect for persons with schizophrenia since it plays an important role in determining medication adherence of persons with schizophrenia (Bechi, Papini, Cocchi, Anselmetti, Ermoli, Smeraldi, & Cavallaro, 2005).

The main activity of each session of the intervention program focused on practicing mindfulness (khusu') in salat and reciting the Holy Qur'an with the selected surah (verses).The researcher taught the participants how to practice ablution before performing salat, practicing mindfulness (khushu') in salat and reciting the Holy Qur'an together in every session of the program. The researcher informed the participants of the importance of following religious practices in increasing their self awareness of the illness and its impact on medication adherence. Salat is the five compulsory daily prayers. Salat is not only a daily ritual for Muslim persons but it is based on the belief that a person has a direct and deep relationship with God (Allah SWT). Azadboni and Rabinataj (2011) reported that praying, as the first value advice in Quranic verses, plays an effective role in providing Muslims with a healthy calm life.When Muslims perform salat they should prepare both their physical and mental aspects. Ablution before praying is one of the important parts. The Prophet Muhammad said (hadith): "Performing salat (prayer) without purification (ablution) is invalid". Salat must be performed with humility in both a physical and mental manner. Salat involves the tongue, the heart, the mind and the whole body. Salat also plays an important role in increasing the faith and *tawakkul* (trust in Allah SWT). A lot of benefits of salat are not only for the physical dimension but also for the psychological dimension. Hodge and Nadir (2008) stated that Muslims use Islamic practices such as prayer as a manner to deal with the frustration and challenges of life.

In line with persons with schizophrenia, salat can be the one of the therapies in enhancing insight and medication adherence. In this study, the researcher

taught the participants how to perform ablution before doing salat and practiced salat with all the participants.

The Holy Qur'an (*Mu'minoon* 23: 2) stated: *"Those who offer their salat (prayer) with all solemnity and full submissiveness"*. The Prophet Muhammad said (hadith): "Perform your salat (prayer) in the same manner as you have seen me doing" (narrated by Al Bukhari). With regard to this activity, numerous studies have evaluated the effects of salat (prayer) in improving mental health. The results are relevant to the recent study. Javeed (2012) investigated Muslims who practiced regular namaz (salat) and tilawat e-Al-Quran and Muslims who did not practice regular namaz (salat) and tilawat e-Al-Qur'an. The results showed that Muslims who practiced regular salat and the recitation of the Holy Quran had a significant increase in their mental health status and self-concept than Muslim who did not practice regular salat and the recitation of the Holy Quran. Afshari and Bahrani (2014) stated that prayer is the only one way to achieve peace of mind, increased mental health and the prevention of anxiety of the person. Suryani (2013) studied salat and dhikir to dispel voices: The experience of Indonesian Muslims with chronic mental illness. The results found that the participants found a personal way to dispel voices by doing salat and dhikir everytime they heard voices. Kiyani, Mohammadi, and Pourahmad (2011) studied the effect of prayer in increasing mental health .The results found that religious beliefs such as prayer have a significant effect on mental health.

Moreover, the most important factor in performing salat is mindfulness (khushu') or concentration. In this study, the researcher explained the importance of mindfulness in performing salat and its benefits to enhance the insight of the participant. The researcher and participant practiced mindfulness in performing

salat in each session of the intervention program. Murrad (1999) stated that performing salat using a variety of Quranic verses and *duas* (supplication) achieved greater concentration and awareness. Mindfulness (khushu') in salat refers to submissiveness and humility within the heart due to the consciousness of Allah's Greatness and Grandeur. Mindfulness (khushu') in salat to enhance the insight of the participant can be explained by following this mechanism: While performing salat, Muslims have to avoid all distractions and unpleasant thoughts that make them think of something other than the prayer itself. The whole brain concentrates on Allah SWT so that their mind will be free from tension . Being mindful in prayer can help Muslims to develop a positive state of mind and keep out unpleasant thoughts and feelings from the past. After achieving full concentration or mindfulness (khushu') in salat, Muslims feel more calm and peaceful in their lives. Hence, following this mechanism is very useful in helping the persons with schizophrenia to enhance their insight, both clinical insight and cognitive insight. The schizophrenic persons can understand their illness and change any negative attitudes toward their illness and medication as well. They are able to easily cope with their illness problems and adhere to the treatment.

Several studies have been conducted to examine the effects of mindfulness in praying on mental health. The findings are relevant with the recent study. Sayeed and Prakash (2013) stated that khusu' or being in a good state of mind while performing salat will make Muslims feel cheerful, more productive, and more fullfilled in life. Aldahadha (2013) studied the effects of a Muslim praying meditation and a transcendental meditation program on mindfulness.The results showed that there was a relationship between the Muslim praying meditation and mindfulness

skills in improving mental health. Keng, Smoski, and Robins (2011) reported that mindfulness has a lot of positive effects on the psychological aspect including increased subjective well-being, reduced psychological symptoms and emotional reactivity, and improved behavioral regulation. Khoury, Lecomte, Gaudiano, and Paquin (2013) studied mindfulness interventions for psychosis: A meta analysis. The findings revealed that mindfulness interventions are moderately effective in treating negative symptoms of schizophrenic patients. This study was conducted in Western societies but the results showed that mindfulness is effective in reducing illness symptoms in persons with schizophrenia.

With regard to the Holy Qur'an as one of the religious practices that had been used in this program which had contributed to enhancing medication adherence through enhancing both the cognitive and clinical insight of schizophrenic persons. The Holy Qur'an is the Holy Book for Muslim people. It provides a lot of essential meaning for a Muslim's life particularly for healing and seeking treatment for illnesses. Al-Qur'an is the final divine revelation (message of Allah SWT) communicated through His final messenger the Prophet Muhammad Salla-Allahu alayhi wa sallam. Muslims believe that the Holy Qur'an contains directions and a code of conduct for humanity. The Holy Qur'an also is a source of knowledge which deals with thousands of subjects.

This study used two selected Quranic verses, surah *Al Isra* 17:82 and surah *Yunus* 10:57. The Holy Qur'an (*Al-Isra* 17: 82) states: "*And we send down from the Qur'an that which is a healing and a mercy to those who believe*". The Holy Qur'an (*Yunus* 10:57) states: *"O mankind there has come to you a direction from your Lord and a healing for the (diseases) in your hearts and for those who believe a*

guidance and a mercy".The Prophet Muhammad said (hadith): "The best of you is he who learnt the Holy Qur'an and teaches it to others" (narrated by Bukhari). The two selected Quranic verses can explain that the Holy Qur'an is the main source for healing any illnesses in Muslim persons. In this study, the researcher explained the importance of reciting the Holy Qur'an and an understanding of the meaning of the Quranic verses for enhancing insight and medication adherence of schizophrenic Muslim persons .The researcher and the participants also practiced reciting the selected Quranic verses and developed an understanding of the meaning of the selected Quranic verses. Following this mechanism is useful to increase the self-awareness of the illness and cognitive insight of the persons with schizophrenia thus leading to adhering to their medication. The patients also are able to cope easily with their illness. This activity was supported by the previous studies.

Several studies have investigated the effect of Quranic recitation on mental health. Ashikin, Ariff, and Aminudin (2013) studied the effect of Qur'anic recitation on health: A brief review on previous clinical studies. They found that Qur'anic recitation had positive significant results on psychological effects. Bethmann (2014) studied the impact of daily prayer and meditation on mental health. The results reported that daily prayer and meditation improved mental health. Ahmed, Choudhry, Alam, and Kaisar (2007) examined Muslim patients' perception of faith based-healing and the religious inclination of treating physicians. The findings revealed that patients believed that praying five daily prayers (salat) and listening to the Holy Qur'an would help in their healing and keep them healthy. Moreover, Taghiabad, Ahrari, and Garai (2015) studied mental health and coping strategies among memorizers of the Holy Qur'an. The results revealed that using spiritual

beliefs such as reading the Holy Qur'an was effective in improving mental health and good coping strategies. Another study by Mahjoob, Nejati, Hosseini and Bakhshani (2015) studied the effect of the Holy Qur'an Voice on mental health. The results showed that listening to the Qur'an could improve mental health and achieve greater calm in the participants.

With regard to the recent findings, few studies have been conducted to examine the effects of religious practices in enhancing insight and medication adherence in schizophrenia. Mostafa Amr, Ahmed El-Mogy, and Ragaa El-Masry (2013) studied adherence in Egyptian patients with schizophrenia: The role of insight, medication beliefs and spirituality. The results showed that patients with higher daily spirituality had lower side effects of medication, more insight and adherence to medication. Borras, Mohr, Brandt, Gillieron, Eytan and Huguelet (2007) examined religious beliefs in schizophrenia and their relevance for adherence to treatment. The participants were schizophrenic patients with a variety of religions.The findings revealed that religious beliefs and religious practices such as prayer, meditation, and reading religious materials are useful in shaping the representations of illness and attitude toward medical treatment in patients with schizophrenia. Grover, Davuluri, and Chakrabarti (2014) investigated religion, spirituality, and schizophrenia: A review. They found that religion and spirituality were effective methods of coping with the illness and influenced the insight and treatment compliance and out come in patients with schizophrenia.

With regard to roles of nurse in enhancing medication adherence of persons with schizophrenia, several studies can be readily explained. Hitchcock, Schubert , and Thomas (2003) stated that nurse's role as counselor is very important

to help patients make decisions about their health by exploring their feelings and attitudes on the part of the patients treatment. Melrose (2009) studied schizophrenia: A brief review of what nurses can do and say to help. The results showed that nurses play an important roles in understanding of the patient's illness by monitoring medication adherence and asking the questions of the illness symptoms. Kelliher (2013) studied nurses and patient education by reviewing the literature. The results found that nurse's role in patient education is an essential part for developing self-management of medication adherence with chronic diseases such as schizophrenia. Fung, Chan, and Chien (2014) examined role performance of psychiatric nurses in advanced practice : A systematic review of the literature. The findings revealed that roles of psychiatric nurses were identified into three themes: providing of psychosocial interventions, providing of nurse-directed services in health care context, and providing of psychiatric nursing consultation services. Simons, Lathlean, and Kendrick (2006) studied community mental health nurses' views on their role in the treatment of people with common mental disorders. The results found that nurses' roles included providing care and treatment , collaborating with other professionals health care, consultation and liason are important roles in enhancing the care of people with common mental disorders. Gafa (2007) pointed out that roles of psychiatric nurses is categorized into high and low visibility functions. High visibility functions are associated with the technical aspects of nursing work, such as administering medication, whereas, low visibility functions related to establishing interpersonal relationship between nurse and patient, such as warmth and empathy.

Furthermore, a qualitative study, Hemingway (2014) studied medication management in mental health: Nurses' perceptions of their work with

service users and carers.The findings showed three main themes consist of dialoque or communication, education and information, and medication issues that related to nurses' role in managing medication for persons with mental illness. Another qualitative study, Happell, Manias, and Pinikahana (2002) examined the role of inpatient mental health nurse in facilitating patient adherence to medication regimens. The results found that nurse plays an important roles in educating about antipsychotic medication, barriers to medication management, and barriers to effective patient adherence.

Hypothesis 2: The mean scores of medication adherence in persons with schizophrenia after receiving an Islamic-based insight enhancement nursing program at 2 weeks and at 1 month follow-up are different from before receiving the intervention program. The findings revealed that the mean rank of medication adherence at 1 month follow-up ($p < .01$) are higher than those measured at 2 weeks ($p < .01$), as presented in table 5.

With regard to the relationship between insight and medication adherence in persons with schizophrenia, several studies have been conducted. Umut, Altun, Danismant, Kucukparlak, and Karasmustafalioglu (2012) examined the relationship between treatment adherence, insight, and violence among schizophrenia inpatients in a training hospital sample. They found that treatment adherence correlated positively with insight levels. Furthermore, Mohamed, Rosenheck, McEvoy, Swartz, Stroup, and Lieberman (2009) investigated the cross-sectional and longitudinal relationship between insight and attitudes toward medication and clinical outcomes in chronic schizophrenia. The results showed that there was a significant

relationship between insight and drug attitudes and symptoms of schizophrenia. Similarly, Baby, Gupta, and Sagar (2008) studied attitudes and subjective reasons of medication compliance and non compliance among schizophrenia outpatients in India. The results showed that patients with higher positive symptoms and poor insight into illness are more likely to be noncompliant with the medication compared with the patients who had high levels of insight.

With regard to the recent findings, it can be explained that all the participants in the experimental group at 1 month after receiving the Islamic-based insight enhancement nursing program increased their ability in practicing mindfulness (khushu') in salat and reciting the Holy Qur'an better than at the 2 weeks follow-up. The Islamic-based insight enhancement nursing program that was conducted for the participants in the experimental group was effective in enhancing medication adherence through enhancing their insight, both cognitive and clinical insight.

In addition, nurse's roles play an important part in this study. Several nurse's role had been performed in the intervention program to enhance insight and medication adherence of persons with schzizophrenia.They consist of nurse's role as communicator: (1) building therapeutic relationship with the participants to encourage trust, (2) establishing therapeutic communication with the participants, (3) using therapeutic communication techniques such as active listening, broad openings, informing, reflection, focusing and sharing perceptions, (4) caring for the participants' illness experiences, (5) empathic understanding by entering the participants' perceptions and feelings about their ilness.

Nurse's role as educator: (1) assists and guides the participants' understanding about insight and medication adherence, (2) assists and guides the

participants' understanding about the importance of religious practices related to enhancing insight and medication adherence, (3) educates the participants about the importance and benefits of taking medication regularly, (4) educates the participants about how to manage side effects of medication, and (5) educates the participants about the importance of doing religious practices related to enhancing insight and medication adherence.

Nurse's role as counselor: (1) helps the participants define the treatment goal , plan action and gain insight, (2) encourages the participants to discuss their experiences regarding insight, medication, and religious practices (3) helps the participants make decisions about their medication, (4) guides the participants in the development skills and strategies for dealing with their illness and medication,

(5) encourages the participants to express their feelings and thoughts regarding their insight, medication, and religious practices, (6) helps the participants promote their self-care ability for practicing religious activity and taking medication regularly.

Nurse's role as collaborator: (1) collaborates with family caregiver to monitor the participants' activity regarding their religious practices and medication at home, (2) collaborates with community mental health nurses in monitoring religious practices, medication and side effects of medication of the participants.

Furthermore, the Islamic-based insight enhancement nursing program that was performed with the participants in the experimental group was different from regular practice in terms of using the technique of mindfulness (khushu') and reciting the selected Quranic verses (surah *Al-Isra* 17:82 and surah *Yunus*: 10:57) as the crucial way to enhance medication adherence through enhancing both the cognitive

and clinical insight of schizophrenic persons. In this study, the researcher provided the guideline to practice mindfulness (khushu') in salat and the guideline to recite the selected Quranic verses for the participant. All of the participants could follow these guidelines and were able to practice consistently. Following the mechanism of being khushu in salat and reciting the selected Quranic verses had positive effects in helping the schizophrenic persons to develop a positive state of mind in terms of their illness and attitude toward medication. Because they believed that their illness is one of the tests of faith from Allah SWT and they should not complain about it but accept it and ask Allah SWT to reduce their suffering.

The Holy Qur'an (2:155) stated: " *Be sure We shall test you with something of fear and hunger, some loss in goods, lives and the fruits of your toil, but give glad tidings to those who patiently persevere. Who say when afflicted with calamity: To Allah we belong and to Him is our return. They are those on whom descend blessings from their Lord and Mercy. And they are the ones that receive guidance"*. The Prophet Muhammad said (hadith): "There is no disease that Allah has created, except that He also has created its remedy" (narrated by Bukhari). Shaykh al islam Ibn Taymiyah (2015) stated that full concentration or khushu' in salat can be achieved by focusing on what the participant is saying and doing in salat, pondering of the meanings of the Quran recitation, dhikir, and dua and keeping in mind the fact that he is speaking to Allah SWT as if he sees him. After achieving full concentration in salat, Muslim persons feel lighter and find comfort in their life. They are able to easily deal with stressful events.

Several studies have reported the effects of prayer on mental health. Lei (2013) pointed out that through prayer the believer builds a personal relationship

with God, deriving from it a source of peace and spiritual joy to cope with the problems of life with the correct psycho-physical balance. Alabdulwahab, Kachanathu, and Oluseye (2013) studied that physical activity associated with prayer regimes improves the standing dynamic balance of healthy people. The findings showed that the participants practicing Islamic prayer regimes showed significantly better dynamic balance than the non-practicing. Ahmed, Choudhry, Alam, and Kaisar (2007) examined Muslim patients perception of faith based-healing and the religious inclination of treating physicians. The findings revealed that patients believed that praying five daily prayers (salat) and listening to the Holy Qur'an would help in their healing and keep them healthy. Samadi (2015) stated that prayer plays the most important role in coping with mental disorders.

With regard to reciting the selected Quranic verses (surah *Al-Isra* 17:82 and surah *Yunus*: 10:57) that were performed with the participants, this showed that these Quranic verses had positive effects on enhancing insight and medication adherence of schizophrenic persons. The Holy Qur'an (*Al-Isra* 17: 82) states: "*And we send down from the Qur'an that which is a healing and a mercy to those who* believe". The Holy Qur'an (*Yunus* 10:57) stated: *"O mankind there has come to you a direction from your Lord and a healing for the (diseases) in your hearts and for those who believe a guidance and a mercy"*. These surah were chosen because they are very clear and more specific as the evidence to explain the importance of the Holy Qur'an as the ultimate source of healing and treatment of an illness for those who believe. Participants were encouraged to recite these surah (verses) consistently in their daily life.The Holy Qur'an is healing in the physical and psychological aspects of a person. The mechanism of healing in the Holy Qur'an are stated clearly. The

Holy Qur'an provides the balance for the nervous and psychological system of the believer who constantly recites and listens to it, and completes its meaning.Therefore, reciting and listening to the Holy Qur'an and understanding its meaning make Muslims feeling peaceful and calm in their hearts and minds. Following this mechanism is very helpful to reduce the illness symptoms and increase the self-awareness of illness of persons with schizophrenia thus leading to adhering to their medication. Sadeghi (2011) examined the voice of Qur'an and health: A review of performed studies in Iran. The results showed that the Holy Qur'an has a wide variety of effects and functions in the individual, his/her social life and psychological functions. Sukoon (2015) reported that several effects of listening to the Holy Qur'an include improved concentration ability, creating inner peace and healing the neural tensions, decreased fear and hesitation, and improved and strengthened personality.

The studies which investigated insight enhancement therapy by using religious practices for enhancing insight and medication adherence in Muslim persons with schizophrenia are limited. Most of these studies were conducted in Western societies and used several techniques to enhance insight and medication adherence. Nora (2014) investigated the effects of psychoeducation intervention in improving insight and medication compliance of schizophrenic clients in Riyadh, Saudi Arabia.The results revealed that clients with schizophrenia who received psychoeducational intervention had an improvement in insight and medication compliance. Furthermore, Chien, Mui, Cheung, and Gray (2015) studied the effects of motivational interviewing-based adherence therapy for schizophrenia spectrum disorders. The findings showed that motivational interviewing-based adherence therapy was effective in improving insight and medication adherence of the

participants. Acosta, Hernandez, Pereira, Herrera, and Rodriquez (2012) pointed out that several strategies to improve adherence in persons with schizophrenia. They consisted of (1) patient-related interventions, (2) psychosocial interventions, (3) physician-related interventions, and (4) pharmacological treatment related-interventions. Pijnenborg et al (2011) studied the effectiveness of the model, REFLEX, a social cognitive-group treatment to improve insight in patients with schizophrenia. They developed a brief psychosocial intervention called REFLEX which is 12-sessions of group training consisting of three modules of four sessions each. They found that the social cognitive-group treatment REFLEX is one of the ways to improve insight in patients with schizophrenia and has the potential value for improving insight.

In summary, the results of the recent study indicated that salat (prayer) and reciting the Holy Qur'an play an important role to help Muslim persons with schizophrenia to enhance their medication adherence through enhancing their insight, both cognitive and clinical insight. Mindfulness (khushu') in performing salat could help the participants to enhance insight and medication adherence by achieving full concentration on Allah SWT while praying and keeping out unpleasant thoughts and feelings about the illness and medication. Similarly, the Holy Qur'an provides a lot of essential meanings for a Muslim's life particularly for healing and seeking treatment. Nurse's roles include as communicator, educator, counsellor, and collaborator are essential part in enhancing medication adherence of persons with schizophrenia.

CHAPTER 5

CONCLUSION AND RECOMMENDATION

This chapter comprises of conclusions, recommendations of the study, strengths and limitations of the study and implications for future research.

Conclusion of the Study

The randomized controlled trial was used to examine the effect of Islamic-based insight enhancement nursing program on medication adherence in persons with schizophrenia. One-hundred and ten participants were randomly assigned to the experimental group (n = 55) and the control group (n = 55) by using minimization program version 2.01.The intervention program was conducted during a seven-month period, from October 2014 to May 2015. Ten participants, including five participants in the experimental group and five participants in the control group dropped out. Five participants in the experimental group dropped out after attending the first session of the intervention program due to inconvinience of the time. Another five participants in the control group dropped out due to their workload for their families. The final number of participants for analysis was 100. The findings showed that Islamic-based insight enhancement nursing program on medication adherence in persons with schizophrenia was significantly effective in enhancing medication adherence of schizophrenic persons through increasing their insight, both cognitive and clinical insight.

Overall, the findings showed statistical differences in the mean rank of medication adherence at 2 weeks and at the 1 month follow-up between the experimental group and the control group. Mann -Whitney U test was used to examine the mean rank differences of medication adherence at 2 weeks and at the 1 month follow-up between the experimental group and the control group.The results showed significant differences in the mean rank of medication adherence between the experimental group and the control group. Repeated measures Friedman test was employed to examine the differences in the mean rank of medication adherence at baseline, 2 weeks, and 1 month follow-up within the experimental group and the control group. The findings showed significant differences in the mean rank of medication adherence at baseline, 2 weeks and at the 1 month follow-up within the experimental group and the control group. In addition, the differences in the mean rank of medication adherence at 2 weeks and at the 1 month follow-up in the experimental group were examined by using Wilcoxon signed-rank test.The findings showed that the mean rank differences of medication adherence at 2 weeks and at the 1 month follow-up were different within the experimental group.

Recommendation of the Study

The findings of the study would be beneficial for nursing practice, nursing education, and nursing research.

Nursing Practice

The results of the study contribute to providing the evidence regarding the Islamic-based insight enhancement nursing program on medication adherence for persons with schizophrenia. The intervention program had been developed by using salat (prayer) and recitation of the Holy Qur'an that can be applied to Muslim patients with schizophrenia by psychiatric nurses who work not only in the Community Health Center but also in psychiatric hospitals in order to help the patients with schizophrenia to enhance their insight and medication adherence.The nurses also can use the intervention program as a comprehensive guideline in their daily practices. The use of Islamic-based insight enhancement nursing program effectively enhanced medication adherence of persons with scizophrenia.

Nursing Education

Islamic-based insight enhancement nursing program is one of the interventions that can be introduced in mental health nursing curricula. The intervention program provides a clear instruction on how to enhance insight and medication adherence by using mindfulness (khushu) in salat and recitation of the Holy Qur'an for Muslim patients with schizophrenia.The intervention protocol also can be taught to the students to increase their knowledge and ability in taking care of Muslim patients with schizophrenia.

Nursing Research

The findings of the study can support the development of nursing research especially in the psychiatric nursing area for Muslim patients with schizophrenia.The future research is recommended to use or modify the Islamic-based insight enhancement nursing program by using mindfulness techniques with other Islamic approaches for other mental disorders such as depression and bipolar disorders in order to enhance insight and medication adherence.

Strength and Limitation

Strengths

There are several strengths of this study. Firstly, the study was a randomized controlled trial with a repeated measure at 2 weeks and 1 month after treatment follow-up. Secondly, the eligible participants were randomly assigned in either the intervention group or the control group by using minimization program 2.01. This technique can reduce threats to internal and external validity by controlling confounding variables. Thirdly, the intervention program was employed as a group activity that provides the opportunity for the participants to share and practice together.

Limitation

The limitation of this study is the questionnaires that were delivered to the participants which were a little difficult for them to understand particularly in regards to The Beck Cognitive Insight Scale (BCIS). Since this study used all existing

instruments that had been developed in Western society, they may not really fit with the culture and Muslim context.

Implication for Future Research

Future studies are still needed to examine the effect of Islamic-based insight enhancement nursing program on medication adherence in Muslim patients with other mental disorders by practicing the mindfulness technique in salat and recitation of the Holy Qur'an.The intervention guideline also can be developed or adapted to other religious or spiritual beliefs in order to enhance insight and medication adherence of persons with schizophrenia.

References

Abdul, H. (2001). Islamic beliefs and mental health. *Mental Health Nursing, 21*(2), 6-9.

Acosta, F. J., Hernandez, J. L., Pereira, J., Herrera, J., & Rodriquez, C. J. (2012). *World Journal of Psychiatry, 2*(5), 74-82.

Afshari, F., & Bahrami, A. (2014).Treatment of mental illness through prayer. *International Journal Review of Life Science, 4*(3), 5-9.

Ahmad, S. I. (2013). Principles of self-development in Islam. *The religion of Islam*. Retrieved from http://www. islamreligion.com/articles/5306/viewall/.

Ahmed, W., Choundry, A. M., Alam, A. Y., & Kaisar, F. (2007). Muslim patients perceptions of faith-based healing and religious inclination of treating physicians.*Pakistan Heart Journal, 40*(3), 61-65.

Alabdulwahab, S. S., Kachanathu, S. J., & Oluseye, K. (2013). Physical activity associated with prayer regimes improves standing dynamic balance of healthy people. *Journal of Physical Therapy Science, 25*(12), 1565-1568.

Aldahadha, B. (2013). The effect of Muslim praying meditation and transcedental meditation programs on mindfulness among the University of Nizwa students. *College Student Journal*, *47* (4).

Amador, X. E. (2006, September). Poor insight in schizophrenia [Special Report], 1-4.

Amador, X. E., & Davis, A. S. (1998). *Insight and psychosis* (pp.101). Retrieved from http://books.google.com/books?isbn=0195084977.

American Psychiatric Association. (2000). The diagnostic and statistical manual of mental disorders a text revision (DSM-TR). Retrieved from http://www.psychiatry.org/practice/dsm/dsm-iv-tr.

Ashikin NT, M., Ariff, M. S., & Aminudin, C. A. (2013). The Effect of qur'anic recitation on health: A brief review on previous clinical studies. [Supplementary]. *The International Medical Journal Malaysia,12*(2), 3.

Ashy, M. A. (1999). Health and illness from an Islamic perspective. *Journal of Religion and Health, 38*(3), 241-257.

Azadboni, R. M., & Rabinataj, S. A. (2011). Faith, Health and Psychology. *Procedia - Social and Behavioral Sciences, 30*, 1530-1533.

Baasher, T. (2001). Islam and mental health. *La Revue de Sante de la Mediterranee orientale, 7*(3), 372-376.

Baby, R., Gupta, S., & Sagar, (2008). Attitudes and subjective reasons of medication compliance and noncompliance among outpatients with schizophrenia in India. *The Internet Journal of Epidemiology, 7* (1), 1-8.

Barkhof, E., Meijer, C. G, de Sonneville, L. M. J., Liszen , D.H., & de Haan, L. (2012). Intervention to improve adherence to antipsychotic medication in patients with schizophrenia – A review of past decade. *European Psychiatry, 27*(1), 9-18.

Barbui, C., Kikkert, M., Mazzi, M. A., Becker, T., Bindman, J., Schene, A., Nose, M.,...Tansella, M. (2008). Comparison of patient and clinician perspectives in the assessment of antipsychotic medication adherence. *Psychopathology, 42*, 311-317. doi: 10.1159/000232973.

Basic Health Research. (2007). National reports. Retrieved from http://id.scribd.com/doc/25886294/Riskesdas-laporanNasional.

Beck, A. T., Baruch, E., Balter, J. M., Steer, R. A., & Warman, D. M. (2004). A new instrument for measuring insight: The Beck cognitive insight scale. *Schizophrenia Research, 68,* 319-329.

Beichi, M., Papini, B., Cocchi, F., Anselmetti, S., Ermoli, E., Smeraldi, E., & Cavallaro, R. (2005). Attitude toward treatment in schizophrenia: Influences of cognitive dimensions. *Clinical Neuropsychiatry, 2*(4), 237-242.

Bethmann, D. (2014). Effectual meditation or daily prayer lead to improved mental health in adulthood. Retrieved from http://www nursinglibrary.org/vhl/bitstream/10755/338412/1/Bethmann.

Birchwood, M., Smith, J., Drury, V., Healy, J., Macmillan, F., & Slade, M. (1994). A self-report insight scale for psychosis: Reliability, validity and sensitivity to change. *Acta Psychiatrica Scandinavica, 89*, 62-67.

Bora, E., Erkan, A., Kayahan, B., & Veznedaroglu, B. (2007). Cognitive insight and acute psychosis in schizophrenia. *Psychiatry and Neuro Clinicalsciences, 61*, 634-639.

Borras, L., Mohr, S., Brandt, P. Y., Gillieron, C., Eytan, A., & Huguelet, P. (2007). Religious beliefs in schizophrenia: Their relevance for adherence to treatment. Schizophrenia Bulletin, 33(5), 1238-1246.doi: 10.1093/schbul/sb1070.

Bota, R. G., Munro, J. S., Ricci, W. F., & Bota, D. A. (2006). The dynamics of insight in the prodrome of schizophrenia. *Center for Neuroscience Spectrums, 11*(5), 355-362.

Brune, M., Schaub, D., Juckel, G., & Langdon, R. (2011). Social skills and behavior problems in schizophrenia: The role of mental state attribution, neurocognition and clinical symptomatology. *Psychiatry Research, 190*(1), 9-17.

Casher, M.I., & Bess, J. D. (2012, April). Determination and documentation of insight in psychiatric inpatients. A crucial and often neglected psychiatric mental status item. *Psychiatric Times*, *29*(4), 34-39. Retrieved from www.psychiatrictimes.com/mdd/content/article/10168/2054063.

Chakraborty, K., & Basu, D. (2010). Insight in schizophrenia-A comprehensive update. *German Journal of Psychiatry,13*, 17-30.

Chien, W. T., Mui, J. FC., Cheung, E. FC., & Gray, R. (2014). Effects of motivational interviewing-based adherence therapy for schizophrenia spectrum disorders: A randomized controlled trial. *Trials,16* (270), 1-14. doi 10.1186/s13063-015-0785-z.

Christley, R. M. (2010). Power and error: Increased risk of false positive results in underpowered studies. *The Open Epidemiology Journal, 3*, 16-19.

Cohen, C. B., Wheeler, S. E., Scott, D. A., Edwards, B. S., Lusk, P., & The Anglican Working Group in Bioethics. (2000, May-June). Prayer as therapy. A challenge to both religious belief and professional ethics. *Hastings Center Report, 30*(3), 40-47.

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed). Hillsdale, New Jersey: Lawrence Erlbaum Associates.

Cook, T. D., & Campbell, D. T. (1979). *Validity. In T. D. Cook and D. T. Campbell. Quasi-experimental design & analysis issues for field settings*. (pp. 37-94). Boston: Houghton Mifflin.

Dickerson, F. B., Sommerville, J., Origoni, A. E., Ringel, N. B., & Parente, F. (2002). Experiences of stigma among outpatients with schizophrenia. *Schizophrenia Bulletin, 28*(1), 143-155.

Donohoe, G. (2006). Adherence to antipsychotic treatment in schizophrenia. What role does cognitive behavioral therapy play in improving outcomes? *Disease Manage Health Outcomes, 14*(4), 207-214.

Droulout, T., Liraud, F., & Verdoux, H. (2003). Relationships between insight and medication adherence in subjects with psychosis. *Enchepale, 29*(5), 430-437.

Elmasri, Y. M. (2011). Effect of educational program on insight into illness and attitudes toward medications among schizophrenic patients. *Journal of American Science,7*(3), 269-277.

Emmerson, L. C., Granholm, E., Link, P. C., McQuaid, J. R., & Jeste, D. V. (2009). Insight and treatment outcome with cognitive-behavioral social skills training for older people with schizophrenia. *Journal of Rehabilitation Research and Development, 46*(8), 1053-1058.

Fung, Y.L., Chan, Z., & Chien, W. T. (2014). Role performance of psychiatric nurses in advanced practice: A systematic review of the literature. *Journal of Psychiatric and Mental Health Nursing, 21*(8), 698-714.

Gafa, K. (2007). Psychiatric nursing, the envolving role in mental health. *The synaps*e. Retrieved from http://www. index/php/thesynapse-magazine/issue-3-2007.

Gehlbach, H. (2004). A new perspective on perspective taking: A multidimensional approach to conceptualizing an aptitude. *Educational Psychology Review,16*, 207-236.

Gilmer, T. P., Dolder, C. R., Lacro, J. P., Folsom, D. P., Lindamer, L., Garcia, P., & Jeste, D. V. (2004). Adherence to treatment with antipsychotic medication and health care costs among medicaid beneficiaries with schizophrenia. *American Journal of Psychiatry,161,* 692-699.

Grover, S., Davuluri, S., & Chakrabarti, S. (2014). Religion, spirituality, and schizophrenia: A review. *Indian Journal of Psychological Medicine, 36*(2), 119–124. doi: 10.4103/0253-7176.130962

Happell, B., Manias, E., & Pinikahana, J. (2002). The role of the inpatient mental health nurse in facilitating patient adherence in medication regimes. *International Journal of Mental Health Nursing, 11*(4), 251-259. doi: 10.1046/j.1440-0979.2002.00256.x.

Hemingway, S. (2014). Medication management in mental health: Nurses' perceptions of their work with service users and carers. *Mental Health Nursing, 34*(6), 18-23. Issn: 2043-7501.

Hill, M., Crumlish, N., Whitty, P., Clarke, M., Browne, S., Kamali.,...O'Callaghan, E. (2010). Nonadherence to medication four years after a first episode of psychosis and associated risk factors. *Psychiatry Services, 61*(2), 189-192.

Hitchcock, J. E., Schubert, P. E.,& Thomas, S. A (2003). *Community health nursing*: *Caring in action* (2nd ed, p. 465). Delmar learning.

Hodge, D. R., & Nadir, A. (2008). Moving toward culturally competent practice with Muslims: Modifying cognitive therapy with Islamic tenets. *Social Work, 53*(1), 31-41.

Huang, W. F., Cheng, J. S., Lai, I. C., & Hsieh, C. F. (2009). Medication compliance in outpatients with schizophrenia in one veterans hospital in Taiwan. *Journal of Food and Drug Anaysis, 17*(6), 401-407.

Jamilian, H. (2012). The effect of familiarty with Qur'an on the mental health [supplement 1]. *European Psychiatry, 27*, 1.

Jaramillo, P., Fuentes, I., & Ruiz, J. C. (2009). Cognition, social cognition and social functioning in schizophrenia. *Psychology, Society, and Education, 1*(1), 13-24.

Javeed, Q. S. (2012). A study of Muslims those who practice regular namaz and tilawat -e- Al Quran and Muslims those who do not practice regular namaz and tilawat -e- Al Quran respect to mental health and self concept. *Review of Research, 2* (1). issn: -2249-894X.

Katiya, S. (2013). Introduction to Holy Qur'an. Retrieved from http://www.as.sidq.org/Siddique Katiya.

Kaplan, H. I., Sadock, B. J., & Sadock, V. A. (2000). *Kaplan and Sadock's comprehensive textbook of psychiatry.* Lippincott Williams & Wilkins.

Keng, S. L., Smoski, M. J., & Robbins, C. J. (2011). Effects of mindfulness on psychological health: A review of empirical studies. *Clinical Psychological Review. 31*(6), 1041–1056. doi:10.1016/j.cpr.2011.04.006.

Kelliher, F. (2013). Nurses and patient education. Retrieved from http://www.connecting-nurses.com/cp/en/download.jsp?file=41D00116

Kemppainen, J. K., Buffum, M., Wike, G., Kestner, M., Zappe, C., Hopkins, R.,...Bartlebaugh, P. (2003). Psychiatric nursing and medication adherence. *Journal of Psychosocial Nursing and Mental Health Services, 41*(2), 38-49.

Kemp, R., Hayward, P., Applewhite, G., Everitt, B., & David, A. (1996). Compliance therapy in psychotic patients: Randomised controlled trial. *British Medical Journal, 312* (7027), 345.

Khoury, B., Lecomte, T., Gaudiano, B. A., & Paquin, K. (2013). Mindfulness interventions for psychosis: A meta-analysis. *Schizophrenia Research*, 1-9

Kikkert, M. J., Schene, A. H., Maarten W.J, K., Robson, D., Born, A., Helm, H.,...Gray, R. J. (2006). Medication adherence in schizophrenia: Exploring patients', carers', and professionals' views. *Schizophrenia Bulletin, 32*(4), 786-794.

Kiyani, R., Mohammadi, A., & Pourahmad, E. (2011). Investigating the effect of prayer in increasing the mental health of college students. *Procedia - Social and Behavioral Sciences, 30*, 1875-1877.

Kneils, C. R., Wilson, H. S., & Trigoboff, E. (2004). *Contemporary psychiatric-mental health nursing* (p. 306). New Jersey: Upper Saddle River.

Lan, C. M., Shiau, S. J., & Lin, L. C. (2003). Knowledge, beliefs, attitudes, and drug compliance in schizophrenia. *Tzu Chinese Medicine Journal, 15*, 369-375.

Lan, C. M., Shiau, S. J., & Huang, R. Y. (1997). Applying Peplau's theory in improving drug compliance of a schizophrenic patient. *The Journal of Nursing, 44*(1), 56-62.

Lei, S. (2013). The spiritual and medical benefits of Islamic prayer. Retrieved from http://archieve.org/stream/Medical Benefits of Prayer Dr Sabrina_djvu.txt.

Leucht, S., Kane, J. M., Kissling, W., Hamann, J., Etschel, E., & Engel, R. (2005). Clinical implications of Brief Psychiatric Rating Scale score. *The British Journal of Psychiatry, 187*, 366-371. doi: 10.1192/bjp.187.4.366.

Lin, Y. S., & Tzeng, W. C. (2011). Application of the Peplau's theory in the nursing care of the patient with paranoid type schizophrenia. *Airiti library*. Retrieved from http://www. airitilibrary.com/Publication/alPublication Journal?PublicationID=18188133&IssuesID=201201050020.

Lu, Y., & Wang, X. (2012). Correlation between insight and internalized stigma in patients with schizophrenia. *Shanghai Archives of Psychiatry, 24*(2). doi: 10.3969/j.issn.1002-0829.2012.02.004.

Lysaker, P. H., Buck, K. D., Salvatore, G., Papolo, R., & Dimaggio, G. (2009). Lack of awareness of illness in schizophrenia: Conceptualizations, correlates and treatment approaches. *Expert Review of Neurotherapeutics, 9*(7), 1035-1043.

Lysaker, P. H., Buck, K. D., Taylor, A. C., & Roe, D. (2008). Associations of metacognition and internalized stigma with quantitative assessments of self-experience in narrative of schizophrenia. *Psychiatry Research, 157*, 31-38.

Mahjoob, M., Nejati, J., Hosseini, A., & Bakhshani, M. N., (2013). The effect of holy Qur'an voice on mental health. *Journal of Religion and Health, 52*(4) doi: 10.1007/s10943-014-9821-7.

Mardiyono. (2012). *The effects of nursing-based Islamic tapping therapy on anxiety and perceived control in Indonesian patients with acute myocardial infarction admitted in ICCU*. (Unpublished doctoral thesis). Prince of Songkla University, Thailand.

Masand, P. S., & Narasimhan, M. (2006). Imrpoving adherence in to antipsychotic pharmacotherapy. *Current Clinical Pharmacology, 1*, 47-56.

McCann, T. V., Deans, C., Clark, E., & Lu, S. (2008). A comparative study of antipsychotic medication taking in people with schizophrenia. *International Journal of Mental Health Nursing, 17*, 428, 438.

Medina, E., Salva, J., Ampudia, R., Mauriono, J., & Larumbe, J. (2012). Short-term clinical stability and lack of insight are associated with a negative attitude towards antipsychotic treatment at discharge in patient with schizophrenia and bipolar disorder. *Patient Preference and Adherence, 6*, 623-629.

Melrose, S. (2009). Schizophrenia: A brief review of what nurses can do and say to help. *The Journal of practical Nursing*, *59*(2), 3-4.

Merriam-Webster Dictionary. (2012). Retrieved from http://www.merriam-webster.com/medical/insight.

Mohr, S. (2011). Integration of sprituality and religion in the care of patients with severe mental disorders. *Religions, 2,* 549-565. doi: 10.3390/rel2040549.

Mohamed, S., Rosenheck, R., McEvoy, J., Swart, M., Stroup, S., & Lieberman, J. A. (2009). Cross-sectional and longitudinal relationships between insight and attitudes toward medication and clinical outcomes in chronic schizophrenia. *Schizophrenia Bulletin, 35*(2), 336-346.

Mostafa Amr, Ahmed El-Mogy, & Ragaa El-Masry. (2013). Adherence in Egyptian patients with schizophrenia: The role of insight, medication beliefs, and spirituality. *The Arab Journal of Psychiatry, 24*(1), 60-68. doi: 10.12816/0000100.

Murrad, K. (1999). In the early hours. Reflections on spiritual and self development. Retrieved from http://www.goodreads.com/book/show/525197.In_The_Early_Hours.

Murray-Swank, A. B., Lucksted, A., Medoff, D. R., Yang, Y., Wohlheiter, K., & Dixon, L. B. (2006). Religiosity, psychosocial adjustment, and subjective burden of persons who care fo those with mental illness. *Psychiatric Services, 57*, 361-365.

Mysore, A., Parks, R. W., Lee, K. H., Bhaker, R. S., Birkett, P., & Woodruff, P. W. R. (2007). Neurocognitive basis of insight in schizophrenia. *The British Journal of Psychiatry, 190,* 529-530. doi: 10.1192/bjp.bp.106.029181.

National Institute of Mental Health. (2009). Schizophrenia (pp. 2-7). Retrieved from http://www.nimh.gov/health/topics/schizophrenia/index shtml.

Nieto, L., Cobo, J., Pousa, E., Blas-Navarro, J., Garcia-Peres, G., Palao, D., & Obiols, J. E. (2012). Insight, symptomatic dimensions, and cognition in patients with acute-phase psychosis. *Comprehensive Psychiatry, 53*, 502-508.

Nora M.Al-Yahya (2014). Effects of psycho education intervention in improving insight and medication compliance of schizophrenic clients, Riyadh, Saudi Arabia. *World Journal of Medical Sciences, 11*(3), 289-300.

Okhasa, A. (2001). Egyptian contribution to the concept of mental health. *Eastern Mediterranean Health Journal, 7*(3), 377-380.

Osterberg, L., & Blaschke, T. (2005). Drug therapy. Adherence to medication. *The New England Journal of Medicine, 353*, 487-497.

Ouzir, M., Azorin, J. M., Adida, M., Boussaoud, D., & Battas, O. (2012). Insight in schizophrenia: From conceptulization to neuroscience. *Psychiatry and Clinical Neurosciences, 66*, 167-179. doi: 10.1111/j.1440-1819.2012.02325.x.

Ozer, D. J., & Benet-Martinez, V. (2006). Personality and the prediction of consequential outcomes. *Annual Review of Psychology, 57,* 401-421.

Peggy El Mallakh., & Findlay, J. (2015). Strategies to improve medication adherence in patients with schizophrenia: The role of support services. *Neuropsychiatry Disease Treatment, 11*, 1077-1090. doi: 10.2147/NDT.S56107.

Patel, U. B., Quanghong Ni, M. S., Clayton, C., Lam, P., & Parks, J. (2010). An attempt to improve antipsychotic medication adherence by feedback of medication possession ratio scores to prescribers. *Population Health Management, 13(*5). doi: 10.1089/pop.2009.0053.

Pijnenborg, GHM., Van der Gaag, M., Bockting, CLH., Van der Meer, L., & Aleman, A. (2011). REFLEX, a social-cognitive group treatment to improve insight in schizophrenia: Study protocol of a multi-center RCT. *Bio Medical Central of Psychiatry, 11*, 1-9.

Pooe, J.M., Sokudela, B., Roos, J. L., Motlana, L. M., Dlamini, N., & Snyman, M. (2010). Testing the effectiveness of existing psycho-educational material (The Alliance Programme) for patients suffering from the schizophrenia in the South African context. *African Journal of Psychiatry, 13,* 302-308.

Pyne, J., McSweeney, J., Kane, H. S., Harvey, S., Bragg, L., & Fisher, E. (2006). Agreement between patients with schizophrenia and providers on factors of antipsychotic medication adherence. *Psychiatric Services, 57*(8), 1170-1178.

Rasool, G. H. (2000). The cresent in islam: Healing in nursing and the spiritual dimension. Some considerations towards an understanding of the Islamic perspectives on caring. *Journal of Advanced Nursing, 32*(6), 1476-1484.

Rossi, A., Pacifico, R., & Stratta, P. (2009). Attitudes towards medication and the clinical variables in schizophrenia: Structural equation models. *Patient Preference and Adherence, 3*, 305-309.

Rossell, S. L., Coakes, J., Shapleske, J., Woodruff, P. W. R., & David, A. S. (2003). Insight: Its relationship with cognitive function, brain volume and symptoms in schizophrenia. *Psychosocial Medicine, 33,* 111-119.

Rushton, C. H., Reina, M. L., & Reina, D. S. (2007). Building trustworthy relationships with crically ill patients and families. *AACN Advanced Critical Care, 18*(1), 19-30.

Sabrina, L. (2013). The spiritual and medical benefits of Islamic prayer. Retrieved from https://archive.org/stream/MedicalBenefitsOfPrayerDrSabrina_djvu.t

Sadeghi, H. (2011).Voice of Quran and health: A review of performed studies in Iran. *Quarterly of Quran & Medicine, 1*(1), 33-37.

Samadi, M. (2015). The Effects of praying in mental health from islam perspective. *International Journal of Economy, Management and Social Sciences,4*(4), 392-398.

Sayeed, S. A., & Prakash, A. (2013). The Islamic prayer (salah/namaz) and yoga togethereness in mental health [supplement 2]. *Indian Journal of Psychiatry,* s224-s230.

Sadock, B. J., Kaplan, H. I., & Sadock, V. A. (2007). Kaplan and sadock's synopsis (p. 235). Retrieved from http://www.books.google.co.th/books?isbn=078177327X.

Shamian, J. (2014). The role of nursing in health care. *Revista Brasileira de Enfermagem, 67*(6), 867-868.

Shaykh al-islam Ibn Taymiyah (2015). 33 Ways of developing khushoo' in salaah. Retrieved from http://www.kalamullah.com/salah.html.

Sh. Hamoud M Al-Lahim .(2003). The meaning of shahada. *Ummah forum*. Retrieved from http://www.ummah.com/forum/showthread.php?23237-The-meaning-of-shahada.

Simons, L., Lathlean, J., & Kendrick, T. (2006). Community mental health nurses' views of their role in the treatment of people with common mental disorders. *Primary Care Mental Health, 4*, 1-9.

Sprong, M., Schothorst, P, Vos, E, Hox, J., & Van Engeland. (2007). Theory of mind in schizophrenia. *The British Journal of Psychiatry, 191*, 5-13.

Staring, A. B. P., Van der Gaag, M., Koopmans, G. T., Selten, J. P., Van Beveren, J. M., Hengeveld, M. W.,...Mulder, C. L. (2010). *The British Journal of Psychiatry, 197*, 448-455. doi: 10.1192/bjp.bp.110.077289.

Stuart, G. W., & Laraia, M. T. (2001). *Principles and practice of psychiatric nursing* (7th ed, p. 404). St. Louis, Missouri: Mosby.

Sukoon, M. (2015). Effect of listening the Holy Qur'an. Retrieved from http://www.markazsukoon.org/effects-of-the-listening-to-the-holy-quran/.

Suryani. (2013). Salat and dhikir to dispel voices: The experience of Indonesian muslim with chronic mental illness. *Malaysian Journal of Psychiatry Online Early*, *2* (3), 1-9.

Suresh, K. P. (2011). An overview of randomization techniques: An unbiased assessment of outcome in clinical reasearch. *Journal of Human Reproductive Sciences, 4*(1), 8-11. doi: 10.4103/0974-1208.82352.

Surguladze, S & David, A. (1999). Insight and major mental illness: An update for clinicians *Advances in Psychiatric Treatment, 5*, 163-170.

Tomey, A. M., & Alligood, M. R. (2006). *Nursing theorists and their work* (6th ed). St. Louis, Missouri: Mosby.

Thagiabad, B. A., Ahrari, S., & Garai, Z. (2015). Mental health and stress-coping strategies among memorizers of holy Quran. *Health, Spirituality and Medical Ethics, 2*(2), 15-21.

Thompson, K., Kulkarni, J., & Sergejew, A. A. (2000). Reliability and validity of a new medication adherence rating scale (MARS) for the psychoses. *Schizophrenia Research, 42*, 241-247.

Umut, G., Altun, Z. O., Danismant, B. S., Kucukparlak, I., & Karasmutafalioglu, N. (2012). Relationship between treatment adherence, insight and violence among schizophrenia inpatients in training hospital sample. *The Journal of Psychiatry and Neurological Sciences, 25,* 212-220.

Vickar, G. M., North, C. S., Downs, D., & Marshall, D. L. (2009). A randomized controlled trial of a private-sector inpatient-initiated psychoeducation program for schizophrenia. *Psychiatric Services, 60*(1), 117-120. doi: 10.1176/appi.ps.60.1.117.

World Health Organization. (2004*).* Prevention of mental disorders*.* Effective intervention and policy options. Retrieved from http://www.who.int/mental_health/evidence/en/prevention_of_mental_disorders.sr.pdf.

World Health Organization. (2013). Mental health. Retrieved from http://www.who.int/mental_health/management/schizophrenia/en/.

World Health Organization. (2013). Process of translation and adaptation of instruments. Retrieved from http://www.who.int/substance_abuse/research_tools/translation/en/.

Ying, L. U., Wolf, A., & Wang, X. (2013). Experienced stigma and self-stigma in Chinesse patients with schizophrenia. *General Hospital Psychiatry, 35*, 83-88.

Zygmunt, A., Olfson, M., Boyer, C. A., & Mechanic, D. (2002). Interventions to improve medication adherence in schizophrenia. *American Journal of Psychiatry, 159,* 1653-1664.